The Builder.

VOL. LVI. No. 2415. SATURDAY, MAY 18, 1889.

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Halifax Cathedral, Nova Scotia.—Mr. Arthur E. Street, M.A., Architect ..... *Two Double-Page Photo-Litho's.*
Sculpture from the Royal Academy: "Motherless," and "Bequeathed by Bleeding Sire to Son."—Mr. G. A. Lawson, Sculptor *Single-Page Typo-Gravure.*
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The Paris Exhibition.

THERE will be much to be spoken of in detail in regard to the great show at Paris, when it is in a complete state in every department; and it is better to wait till everything is complete before entering into the consideration of separate departments of the exhibits connected with art and construction. But some account of the general impression produced by the Exhibition as it now stands, and viewed as a whole, may be of interest to our readers.

The Eiffel Tower has this practical point in its favour, that visitors to the Exhibition cannot have the slightest doubt, even at night, of the whereabouts of the show; but it is a finger-post only as to direction; as to distance it is an illusion; and a visitor not acquainted with the ground would imagine the Tower, especially as seen lighted up at night, to be much nearer than it really is. This deception as to scale is only removed on a close approach to the erection, and when within the grounds of the Exhibition; even by daylight, and when seen from the Trocadéro Gardens at the side of the river, the scale is lost, and the Tower seems to be immediately on the opposite bank. From all parts of the grounds except in the immediate vicinity of the Tower this result is the same; the thing is so completely out of scale that the size cannot be apprehended except on a close inspection, and the consequence is that this erection, intended for the glory of the Exhibition, has the opposite result of dwarfing all the buildings forming part of the Exhibition, and reducing the apparent length and width of the lawns and terraces in the centre of the grounds: in fact, the Eiffel Tower, as was said of the Monument—

"Like a tall bully, lifts its head and lies"

about the whole thing: a lie too big for the eye to believe, and consequently failing in its effect. The principal pavilions of the Exhibition are really constructions on a very large scale; but in regard to these, again, one is placed under an entire deception as to scale, and half their effect is thrown away in consequence. In regard to the central pavilion and dome there are faults of scale inherent in the design, as we shall have occasion to mention; but this is hardly the case with the two principal pavilions flanking the central garden, the architectural style and detail of which, to be described presently, are very good.

Coming close up under the Eiffel Tower, this false impression is changed, as far as the Tower is concerned. Its size, and the grand sweep of its four great arches, then becomes truly imposing, and impresses one the more one examines it. These arches being constructed on the slant, as it were, and all falling inwards towards the centre of the construction, produce a remarkably fine combination of curves seen in perspective in every variety of foreshortening; the drawing of the lower portion of the Eiffel Tower, from any fixed point in its vicinity, would, in fact, be an admirable and crucial subject to set architectural students for a competition in perspective drawing. The lightness of this immense construction in detail, and the gathering up of all the lines from the angle pedestals towards the centre, impart a peculiar spring and elasticity of appearance to this part of the structure. The pedestals themselves are very badly designed, with huge clumsily-profiled mouldings which completely falsify the scale even on near inspection, and one has to discover that it takes twenty long paces from one angle of this lump of masonry to the other, before finding out its size. From this near point of view the height of the Tower of course produces little effect: the upper part, indeed, hardly seems to have any relation to the substructure; and the details which profess to be ornamental, such as the cantilevers and decorations of the first platform balustrade, are all coarse and tawdry in appearance. The element of beauty, as in so many engineering works in iron, is only apparent in the purely constructive lines of the ironwork, and these more especially in this lower portion. At night the large arches are lined out with lights, with fine effect, and the levels of the first and second platform are similarly lined. The electric light at the summit does not appear, at that height, by any means so powerful or brilliant in effect as was promised or threatened. Of the aspect of the Exhibition and the scene generally, as viewed from the top of the Tower, we regret that we cannot here speak, inasmuch as the edifice was closed to the public on Tuesday, the day of our visit, and time did not allow of an excursion to official headquarters for permission to ascend, which would no doubt readily have been granted. As the only excuse for the thing seems to have been to show experimentally how high modern engineers could build in iron, and as there is a certain excitement in getting up to a great height, there is no doubt the Tower will be ascended by all visitors who have not very giddy heads; as it is there, the only thing is to go up it, there being no other good to be got out of it. But it is a vulgar piece of "brag," of no more sense or merit than the other affair of Babel; and to hint that the Exhibition might have been a failure without it, as we saw suggested in one English paper, is absurd, and argues a very limited appreciation of the real interest of this remarkable display.

Those who have not visited the site will hardly have realised what is the scale and extent of the Exhibition, which is like a small town in itself. It consists of two main portions. On approaching it from the central quarter of Paris, say crossing the Seine from the Place de la Concorde and turning to the right, we come to the smaller main division of the Exhibition, the broad garden grounds stretching from the Invalides to the river-bank, a space about five to six hundred yards in length and two hundred in width. Here there is a complete town of buildings partly representing the architecture and exhibits of the French colonies, partly occupied by Exhibition buildings connected with State departments, the War Department, the Health Department, Education, the Post Office, &c. On the other side of this expanse is a long strip of Exhibition territory running along the Quai d'Orsay, past the Pont d'Alma, and finally connecting the Esplanade des Invalides with the larger expanse of the Champ de Mars. Thus the Exhibition consists of two large sites or parallelograms, radiating from an imaginary centre of a circle, and connected by a narrow strip along the segment of the circumference of the circle formed by the bend of the river. The Champ de Mars territory, however, crosses the river, the Pont d'Jena being bodily included in the Exhibition, and on arriving at the right bank, the Exhibition territory is further continued by a flight of wooden steps and a high-level bridge over the roadway and thus into the Trocadéro gardens.* Similar staircases and bridges carry on the communication over the public roads at one or two other points; and the visitor who has once passed into the Ex-

* We gave a large plan of the Champ de Mars and Trocadéro portions of the Exhibition in the *Builder* for Dec. 4, 1886.

hibition by giving up his ticket at one of the authorised *guichets* must beware of inadvertently walking through any open gate he may come upon, or he will find himself outside the boundary and subject to repayment for entrance before he knows it. On approaching any one of the entrances the visitor will probably be addressed by men offering him a plan of the Exhibition at the cost of 30 centimes.* Let him not despise this humble assistance, but expend his 30 centimes; the plan is only a block plan, but it is perfectly correct as far as it goes, and affords at once a conspectus of the general arrangement and position of the various departments, and saves all trouble in finding one's way about the place.

Let us try to give the reader an idea of the disposition and appearance of the main section of the Exhibition, on the Champ de Mars.† We have a long parallelogram of ground, at right angles to the river, on the left bank. At the lower end of this district is the great Galerie des Machines, placed across the end of the site from side to side. From the centre of this great hall we advance at right angles up the central avenue of the Exhibition, with long galleries extending right and left on either hand, parallel with the Galerie des Machines. We will describe this portion a little more in detail before proceeding onwards.

The dimensions of the Galerie des Machines have been more than once given in the "Letters from Paris" in these columns.‡ Its appearance justifies all the pride which French engineers evidently feel in it, and it is probably the finest hall ever built for machinery exhibits of this kind. The main construction consists of a series of immense wrought iron girders taking the general form of a Tudor arch section, with solid rivetted plates at the haunches and springing (the springing being from the floor line) and lattice work above. Four purlins on each side, and a central ridge piece, all consisting of light lattice girders, form the longitudinal stiffening elements of the construction. At the sides of the hall are tolerably wide longitudinal aisles in two stories, forming a gallery, the girders of which form a further longitudinal stiffening to the main girders, while the cross girders of the galleries form an abutment at the haunches of the main roof principals. The principals at the springing are, so to speak, shaved down to a narrow bearing having free play on a roller bedplate. The hall has a splendid light: the central portion of the roof is covered entirely with glass; the lower portion over the haunches is very effectively decorated with the arms and insignia of the principal towns of France. Of the machinery exhibits we say nothing in detail now; they are mostly *in situ*, though not all working yet. The floor-space within the galleries is divided into five aisles by four rows of coupled iron columns carrying a triangular lattice girder affording bearings for the shafting carrying the pulleys for the belting. A remarkable feature in this section of the Exhibition is the splendid display of locomotives (mostly French and German) and railway carriages of all descriptions.

The main avenue, at right angles from the centre of the Galerie des Machines, is connected with it architecturally by a low glazed dome prettily decorated, with painted figures on the spandrils. The gallery crosses the opening, and one of the stairs leading up to it is lighted by the remarkable stained-glass window of "The return of Alsace and Lorraine," designed by M. Wagrez, and which we illustrated on Jan. 2, 1886. The first object we come to in the centre avenue is an enormous bronze sculptural trophy representing a female figure seated on a car, on a platform supported by colossal sea-horses that prance below. Beyond we come to trophies of metal work and brass founding, and on either side extend galleries, that on the left for "Horlogerie," that on the right devoted to firearms and sporting exhibits. The side galleries, further on, branching out at right angles to the main avenue, are variously devoted to bronzes, furniture, ceramics, textiles, and generally to decorative work of various kinds. None of them are complete, but there is sufficient to promise a remarkable show when they are all filled, this one block of building forming, in fact, a large exhibition of applied art in itself. Among other objects in the central avenue may be especially noticed an organ by Messrs. Cavaillé-Coll, remarkable both for the rich and tasteful design of its case and the weight and power of tone in comparison with its small apparent size. Another prominent object is the high altar intended for St. Ouen at Rouen, exhibited by MM. Poussielgue-Rusand et fils, a sumptuous Gothic piece of tabernacle work, entirely gilt, and relieved here and there by bits of enamel colouring in panels; a frieze of figures crosses the composition, which is further decorated by shrines, statues, and crocketted pinnacles: it is a good piece of work of its kind, but rendered rather gew-gaw in effect by the complete overlay of gilding.

The main avenue is lined in the lower portion of the walls with decorative design of an architectural character, forming a succession of entrance façades, of varying design, to the lateral galleries. Over these are large oblong windows of tinted glass. On coming to the upper end of the avenue we enter the space under the dome which forms the prominent object in the façade towards the gardens.* The internal treatment of this dome is very rich and effective. It is a Greek cross on plan, with four large arches supporting the dome, which has a main pier of coupled ribs running up into the dome from the four angles of the crossing. In the haunches of the dome are three large windows between each of these ribs, glazed with a warm-coloured stained-glass which contributes well to the colour effect of the whole. Above this the dome is effectively decorated with gold rays and star powdering; below the windows is a large frieze of figure-subjects, with a modillion cornice over. Level with the lower line of the frieze the piers are accentuated by a cornice and pediment with recumbent figures: below these spring brackets designed in very rich open scroll-work acting as supports to the frieze. Half way to the springing a gallery runs round decorated with a wrought-iron railing of very beautiful and original design.

From the doorway under this dome we look up the central garden of the Champ de Mars, seeing in the distance, under the Eiffel arches, the Trocadéro as the close of the vista. The lower part of this open space is bordered by the fronts of the pavilions which contain most of the foreign sections, but all this portion, occupying pretty nearly three sides of a square, is faced by verandahs covering broad asphalte terraces, behind which are collected the principal restaurants. These verandahs, which form the façade of this part of the Exhibition buildings, are prettily designed, with graceful iron columns and brackets, and a large frieze over, very gaily decorated with cartouches with coats of arms or insignia of various countries, over each column, with genii as supporters. Between these are mosaic panels with the names of various countries, combined with wreaths and other ornaments. The decoration hits the mark of giving a kind of gay restaurant character, without vulgarity.

Looking back at the façade under the central dome, which we have just quitted, we find there the most ornate but not the best portion of the external architecture of the Exhibition buildings. Beneath a pediment is an immense arch of what we should call in England late pointed shape—a four-centred Tudor arch, in fact. The broad archivolt is encrusted with ornament in the way of shields and emblems, all gilded over; the square piers which form abutments to the arch are decorated at the top with enormous gilt masks, and in front of them, on the surbase, stand two colossal bronze figures representing Industry and Commerce respectively. At the apex of the arch are two large figures, back to back, supporting the emblematical ship of Paris, which forms the acroterion of the gable. There is what may be called an immense amount of "go" about all this, but a total want of refinement and reticence, and also a total disregard to scale. The colossal figures at the base of the piers, as well as the immense figure of Fame on the apex of the dome, poised on one toe and with the other kicking out into the air, entirely dwarf the scale of the whole façade, irrespective of the far too florid character of the detail.

In the space immediately in front of this façade, and on either side of the central avenue, stand the two comparatively small pavilions of the Municipality of Paris, concerning which it is only necessary to say at present that one of them is entirely closed to the public, and the other, though accessible, is so incomplete in its exhibits that any further notice of it here may well be deferred. Beyond the restaurant façades already referred to, and reaching on either side nearly up to the Eiffel Tower, are the two more important façades of the Palais des Beaux-Arts on the right, and the Palais des Arts Libéraux on the left, in the main precise facsimiles of each other. These are very successful examples of special treatment of a building of this class. The central feature of each is a dome with console buttresses, roofed with coloured tiles forming vertical ribs on the dome surface, with a large horizontal Egyptian "key-pattern" running round the base and apex of the dome, and the spaces between the ribs marked out into coloured panels with "R.F." in the centre of each. The central feature of the elevation shows in the lower portion three great round arched bays, with windows in the upper portion, the arcade stopping against square angle-turrets, the crowning portions of which are still in a state of scaffolding. On the piers of the arches are huge steles in bas-relief, the two end ones decorated with symbols, the centre ones between the arches having large alto-relief terra-cotta figures on the centre of the stele,—effective in a way, but in too high relief and looking too much as if they were stuck on as an afterthought. In the spandrels of the arches are circular medallions; above the arch-heads is a decorative frieze in terra-cotta, interrupted above each of the piers by a square block of masonry rising above the line of the upper cornice, and pierced by a round-arched opening in which is seated a statue outlined against the light through the open arch, with very pretty effect. At the lower end of the façade is a return wing and an elevation somewhat in the same style; the upper end is stopped by a simple angle pavilion with a domical roof. The intermediate portions of the façade exhibit an arcade with square piers formed by wrought-iron lattice standards filled up flush with decorative terra-cotta plaques, the piers being further decorated with shields and garlands affixed at the top. Half-way up the piers are cross girders carrying galleries, and further supported by light iron columns standing a little free on each side of the main piers; on these girders is carried a solid or blind balustrade of terra-cotta, forming a sill to the large windows in the upper part of the bay. These windows have iron segmental-headed frames with lattice spandrels, into which are inwoven realistic looking sprigs of foliage executed in wrought-iron, and specially painted; a mistake in taste which is to be regretted. Above the window-heads and their string-course is a gold-ground frieze, on which are panels adorned with wreaths, and with Cupid-like supporters on each side; in the panels are the names of eminent men, inscribed in gold on a blue ground. The whole of this front is in iron and terra-cotta, the latter a warm red, the ironwork painted a delicate grey-blue tone. The whole effect is very good,

* It is marked on the title page "50 centimes," but was selling in the streets at 30.

† We gave a general view of this main portion of the Exhibition, with the Eiffel Tower, in the *Builder* for Feb. 4, 1888.

‡ We gave a view of the interior of this vast hall in the *Builder* for Dec. 17, 1887. The bases of the great girders have, however, been altered in execution from the design shown there.

* For an exterior view of this dome and the central portion of the *façade* of the "Palais des Expositions Diverses," see *Builder*, Jan. 21, 1888.

and as an architectural treatment of a building for a large temporary exhibition it is the best and most successful that we have ever seen.

Between these two long wings of building stretching up either side of the Champ de Mars, the space is laid out in broad lawns with walks between, with beautifully-kept grass. A series of white statues, equally spaced, lines the vista on either hand; and not only have these a charming decorative effect as a whole, but they are mostly worth looking at separately, which is more than can generally be said of similar embellishments on such occasions in England. Instead of Venus di Medicis and Apollo Belvideres, and the other worn-out stock-in-trade of "classical" sculpture, these are mostly examples of modern works of French sculpture with a distinct individuality. A portion of the centre of the ground is occupied by a large fountain and a long basin on a lower level, whence minor jets arise. As the centre-piece of the main fountain is seen the immense group of allegorical sculpture formerly described in a Letter from Paris,—the ship of France with a battering-ram at the prow, a seated female figure in the vessel, another steering, and various attendant figures: this great group comes into the view up the axis of the Champ de Mars from the top or bottom end, as a kind of centre-piece. Viewed in this light, it is far too ragged in outline and composition for the highest sculpturesque effect; here again, as in the case of the central façade before described, we may say that there is great energy and vigour of conception and design, marred by want of refinement and self-restraint. As to the colossal subsidiary figures that sprawl about this fountain,—people tumbling off rocks into the water, and playing antics on the backs of dolphins, we fear they can only be described as vulgar.

Of the pavilions in the rear of the verandahs at the lower end of the ground, those on the right looking from the centre dome, including the exhibits of the Low Countries and Great Britain, are almost entirely complete, and were so, we believe, on the opening day, and it is a gratification that our own contingent should have set an example of punctuality where it seems to have been very much needed. The section of the Low Countries appears to contain a good deal of good decorative work in the way of furniture, inlay, ceramics, and textiles. The boundary between this and the British Section is marked only by one or two small decorative arches or portals spanning the main aisles. The British Section seems to be to a great extent what we may call a manufacturers' exhibition, with a certain amount of decorative work. The centre position is occupied by Messrs. Jackson, the plaster and papier-maché modellers, with a circular domical erection on eight coupled columns, exhibiting the capabilities of their special slab plaster manufacture. This is a conspicuous object which cannot well be overlooked; there are no doubt other exhibits of considerable decorative interest which may be mentioned when we have opportunity to go more into detail; but the impression produced by a rapid general inspection is that there is more of the commercial than the artistic element in this section.

Of the two larger pavilions higher up, the Section of the "Arts Libéraux" (a not very intelligible title) is evidently intended to illustrate various branches of manufacture; but it is in such an exceedingly bare and primitive stage at present that it may be passed over just now without further notice. The Beaux-Arts Section, on the contrary, is complete with the exception of a room here and there still in the hands of picture-hangers, and the central hall of the Retrospective Exhibition (the hall in which the lunch took place on the opening day), and of which the upper galleries, where the paintings are hung, were still closed to the public. The sculpture hall, running transversely across the buildings between the British section and the picture-galleries, is splendidly lighted; it is a large hall with a gabled roof and side galleries, the roof entirely glazed between the galleries. The sculpture exhibits here are very numerous, and include a good many able works, but not, as far as we observed, representing much of the highest school of contemporary French sculpture. The galleries appear to contain a considerable quantity of architectural drawings, but are still closed to the public. Beyond this Hall is the large range of picture-galleries, containing an immense variety of works fairly representative of contemporary French painting, both in its merits and defects. Very large canvases abound; in some cases far too large for the subject treated, and in not a few cases combining energy and vigour with coarse execution and disagreeable colour. Among recent works that are known to fame are Maignan's immense picture of "The Tocsin," a collection of spirits or demons of discord flying around or out of a monster bell in full swing; M. Bouguereau's large painting of "Silenus," which has been seen in London, and his charming smaller painting of Cupid and Psyche as two children flying through the air; M. Benjamin Constant's powerful and splendidly-coloured but brutal picture of an execution in the Harem; M. Duez' large moonlight landscape with cattle which has been mentioned in our columns as one of the attractions of a recent *Salon*—a fine work but far larger than the nature of the subject can justify; Détaille's fine painting of the dreaming soldiers in bivouac on the night before a battle; M. Lefebvre's exquisite ideal of Psyche, and a much larger work with many figures, representing Diana surprised while bathing. M. Henner is represented by several fine works in his peculiar manner. In the centre of the range of galleries is the great hall devoted to the retrospective exhibition of the works of deceased French artists. It is a Greek cross on plan, with a dome with pendentives, carried on four iron arches or arched-shaped girders; there is a great window in each recess, under which are painted in panels the names of eminent artists; Houdon—Rude—Barye, under one; David—Ingres — Delacroix under another; the other spaces are not filled up. The galleries from which the pictures are to be seen are reached by two wide staircases on each side of the hall, carried up on elliptical arches on each side, with fine effect; but these galleries were closed at the time of our visit. On the floor of the Hall a small collection of sculpture is arranged, not so numerous as to encumber the floor or take away from the spacious appearance of the apartment; and on the walls under the galleries is hung a collection of architectural drawings, including finely-executed coloured elevations of important buildings, and restorations of ancient buildings. These we will examine in detail on another occasion.

The majority of the picture galleries are occupied by French paintings, but other countries are represented on a smaller scale in separate rooms, and the British School has three rooms,—one still incomplete and closed at the time these notes were taken. English painting is not represented so well, perhaps, as might have been wished; the collection includes some works of rather mediocre standing, and some of our best men are not represented by their best works. Yet, while considering that French sculpture (at its best) is quite at the head of the world of art, in regard to painting we cannot but think that even disinterested spectators would feel that in the English rooms they were in the presence of an art marked by much more refined sentiment and more delicate perception of colour than is the case with the majority of the French work; always excepting, in regard to colour, the works of M. Constant, who as a colourist may be said to be absolutely unequalled at present. Among the best representative works in the English rooms are Mr. Watts' "Hope" and "Judgment of Paris"; Sir John Millais' portrait of a little girl, called "Strawberry Blossoms," if we remember right; Mr. Herkomer's noble portrait of a "Darke Ladye" in a dark dress, which fascinated every one at a recent Academy exhibition; Sir F. Leighton's "Andromache"; two splendid seas by Mr. Moore; two fine examples of Mr. Hook's sea-painting, with his own portrait by Sir John Millais hanging between them; Mr. Burne Jones's "Cophetua"; Mr. Orchardson's "After"; Mr. Crofts's "Marlborough"; Mr. Tadema's large picture of the sleeping priestesses ministered to by the townspeople; Mr. Fulleylove's "Oxford from Magdalen Bridge"; Miss Montalba's "St. Mark's, Venice"; one or two good specimens of Mr. Boyce's paintings of old buildings, &c. A small collection of English sculpture placed in these rooms includes Sir F. Leighton's "Sluggard," Mr. Maclean's "Spring," translated from a picture of Mr. Tadema's; Mr. Thornycroft's "Mower" and "Teucer," and Mr. Gilbert's "Icarus."

The space on either side of the Eiffel Tower is laid out in winding walks, and occupied by various minor pavilions, most of which, though finished externally, bear the legend "defense à passer" on their doors. Conspicuous among these erections is a great reproduction of an ancient Mexican temple, as a home for the Mexican exhibits; the very gay and gaudy pavilion of the Argentine Republic; the Brazilian tabernacle, equally florid but less polychromatic, opposite to it; a smaller erection with an Egyptian façade with coved cornice and winged globe, which we believe has some relation to Suez. Across the top of the site, along the bank of the river, runs the interesting collection of model dwellings illustrating the "Histoire de l'Habitation;" these are tolerably complete, but merit more detailed notice than we can give to them in the present general summary.

Returning along the long narrow strip bordering the river, towards the Esplanade des Invalides, we pass between galleries devoted to agricultural implements (on the right) and food products (on the left), and crossing the Place d'Alma by a high bridge with a very steep stair, we come on another long strip of land running up to the Invalides, continuing the same class of exhibits, partly French and partly foreign. Within this line of buildings a railway of diminutive gauge runs with *chars-à-banc*, starting from the Invalides and, after skirting the river front of the Exhibition, running down the side of the Champ de Mars outside the line of buildings. Coming on to the Esplanade des Invalides, we look down a long vista between a number of buildings of various types of architecture, the dome of the Invalides, somewhat too gaudy in its evidently recent gilding (which brings it too near and destroys its scale very much), filling up the vista. Walking down the central avenue, and turning our back to the Invalides Dome, advancing gradually towards the river frontage (as we supposed the visitor to do on the Champ de Mars), the following is a general memorandum of the structures which constitute this separate small town of the Exhibition. On the right is a collection of buildings for the French colonies, many of these being elaborate imitations of the architecture of the colonies represented. On the left are French exhibits connected with various State services. The right hand forms a kind of Oriental street, the left hand represents modern French architectural taste mostly; the contrast is curious and piquant. Immediately on our right, when standing at the lower end and looking towards the Seine, is the circular building for the panorama of "tout Paris," which need not detain us here. In front of this is a model building showing a compartment of a French primary school, with its desks, maps, and gymnasium complete: the architectural treatment simple and suitable, but striking an English eye oddly as being "stone with brick dressings" instead of the reverse. Opposite this is "Train Sanitaire" and "Ambulance," and "Maisons ouvriers" in the rear. On the right we come next to the pavilion of the Indian Archipelago, and above that the extraordinary and monstrous-looking pagoda representing the nightmare architecture of Cambodia, with its successive cornices with growths of nondescript gilded ornament

on all the upper lines: the main walls are painted a subdued red, which appears intended to indicate a sandstone—not very successfully. Next comes the Cochin China pavilion, with the Cochin China village in the rear: the pavilion is a tiled one surrounding a courtyard, of a wooden construction painted in very strong colours, blue yellow and red, and with panels containing landscapes or decorative designs sketched in black lines on a white ground, in a quasi-Japanese taste. Opposite this, in curious contrast, is one of the most characteristic of the French pavilions, that of "Hygiène de l'Habitation." This is a white cement façade with three large arched bays, with wrought iron *grille* doors in the lower portion: there is a plinth formed by inlaid marbles in slabs and flat strings, and in the upper portion the front is decorated with large scrolls of foliage in the Italian Renaissance manner, painted in colour on the white walls: the ironwork of the grilles is painted a pale grey. The whole effect is very bright, and has an appearance quite in keeping with a palace of Health. In front is Cordonnier's fine seated terra-cotta statue of "Hygiène."

Above the Cochin China pavilion on the right is the large "Palais Central" of the Colonial Exhibition, at present closed (as indeed are most of the pavilions of this quarter, and those that are open are nearly empty), which seems intended to sum up a kind of general Oriental character, but it is not happy in design or colour; it is a post and pan construction, with bright red stiles and panels which seem intended to be filled in with painting; a basement of masonry to the whole. Next comes Annam and Tonkin, a brilliantly-painted pavilion with turned-up eaves at the angles, painted decorative panels with blue borders, and windows filled with pierced carved work and a small oblong open light in the centre. We are here opposite the centre of the great pavilion of the War Department, a long Classical Roman façade set a good way back from the main avenue, a courtyard in front of it occupied by specimens of artillery, and with a model of an ancient mediæval gateway with circular flanking towers, looking oddly out of place, in front of the courtyard. The façade of the main building is a grandiose kind of thing in its way. The central feature has coupled Corinthian columns on either side of a great archway, with an immense cornice over, and seated statues on the pedestals over the columns. The end pavilions are decorated with great bas-relief steles with seulptured trophies. As in the case of some other parts of the Exhibition buildings, the design shows great vigour, if it is rather deficient in refinement. The intermediate parts of the façade are very simply treated, with a pilaster Ionic order and a large attic above with pilasters decorated with sculptured *fasces*. A trophy of tricolour flags in the centre of each wing shows with brilliant effect against the white background. The interior exhibits in this pavilion are still very incomplete.

The last important pavilions on the right are those of Tunis and Algiers, which are exceedingly bright and picturesque erections. The Tunis pavilion shows an arcade with horseshoe pointed arches with black and white voussoirs, opening on the inner courtyard; the two side wings are curiously varied, the left with white walls and red window fittings; the right with the walls in buff and red courses with pale blue window fittings and woodwork. The Algerian pavilion is a charming example of imitative architecture, with rich tile diapers on the walls, overhanging timber and plaster upper stories, and pierced windows in Saracenic patterns. Adjoining it is an arcade of shops, where native workers are engaged. Opposite this picturesque and highly-coloured erection the classic pavilion of the "Postes et Télégraphes," painted a kind of cream tint with some of the details relieved in pale blue, looks very correct and elegant, but rather tame.

Such is the general impression of one day's visit to this great collection, which when complete will take the most industrious spectator a week to even look at in any detail. Even in its present incomplete state it is a remarkable spectacle; and when all the departments are complete and arranged, there can be no question that it will be the most wonderful collection of the products of human art and industry which has ever been got together simultaneously in one exhibition.

Interior of Vence Cathedral.

ARCHITECTURE OF PROVENCE AND THE RIVIERA.

THE work published under this title* by Mr. David MacGibbon, the joint author with Mr. Thomas Ross of the important work on the "Castellated Architecture of Scotland" which we have previously noticed, gives an interesting review of the architecture of a district which is perhaps rather better known, at all events to architectural students, than the author seems to be aware of. Although among the numerous illustrations with which his book is adorned there are no doubt sketches of a good many buildings which are not familiar, the nature and character of the architectural remains of the district are pretty well known. Of course, however, Mr. MacGibbon is right in estimating it as much less known than the architecture of the north of France, though certain buildings or remains, such as the Roman remains at Arles and Orange, are being painted or drawn continually, and, indeed, tend to become almost hackneyed.

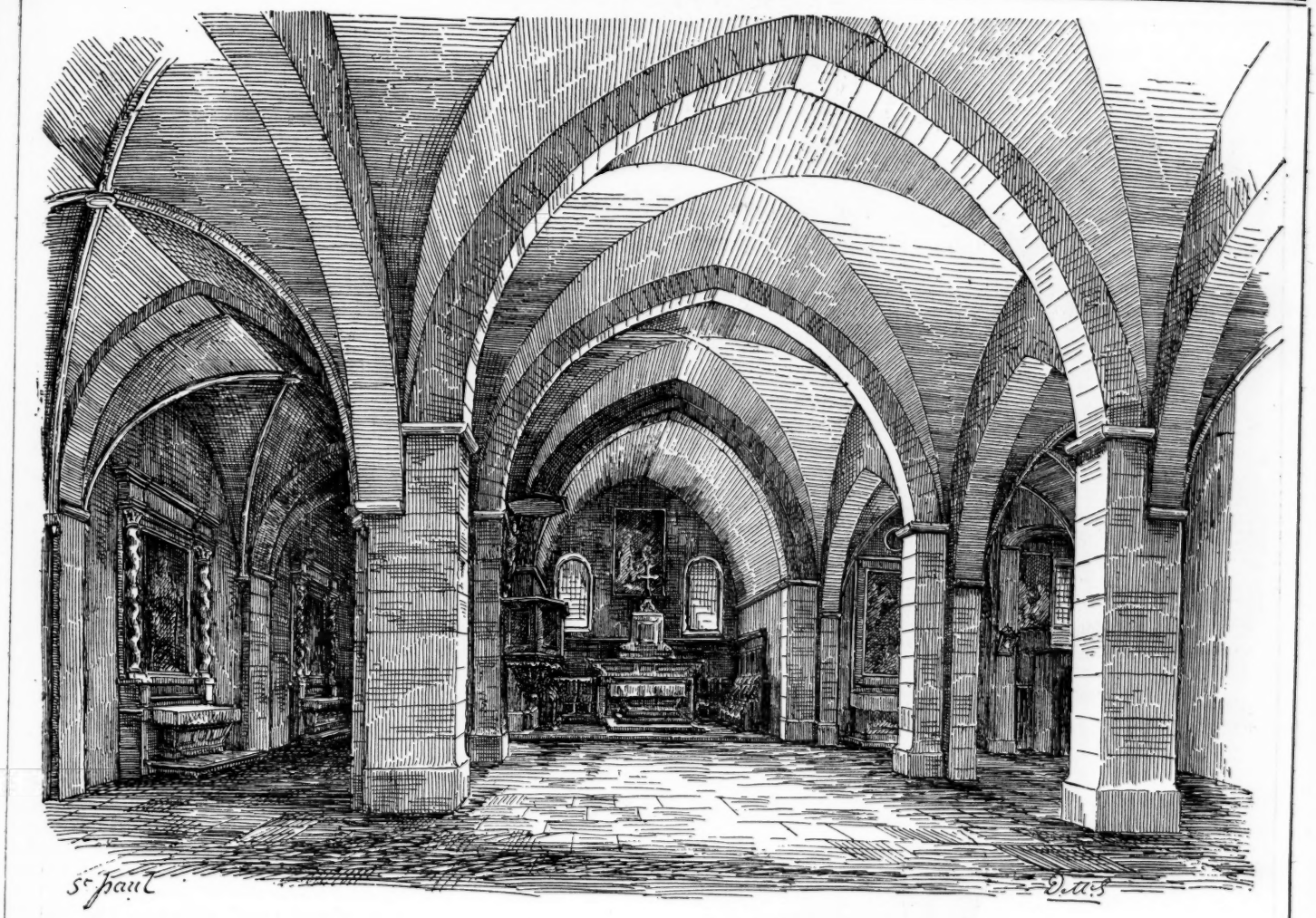
The special interest of the architecture of this portion of France consists firstly in the extent of Roman remains still existing there, and secondly in the strong infusion, in the post-Roman remains, of the Byzantine element which at one time pervaded so great a portion of the church-building world of Europe, and which seemed to have found a specially congenial soil in the south of France. The two elements seem combined in a curious manner in the portion of a sculptured monument from Arles Museum (engraved as fig. 18), in which the link between Classic and Romanesque, and thence to Gothic, is indicated by the arcade which forms the architectural framework of the figures, and which shows segmental arches springing from the caps of a kind of rude Corinthian column, including on the archivolt a rude but quite recognisable indication of the modillion, with its decorative leaf. It is Spalato carried a step further.

The great interest of the phase of architecture chiefly considered in this book is, in fact, the illustration which it gives of the transition from Roman to Mediæval architecture. The actual Roman remains, such as the theatre at Arles, and the Maison Carré at Nismes, are familiar figures; and Tennyson has noted—

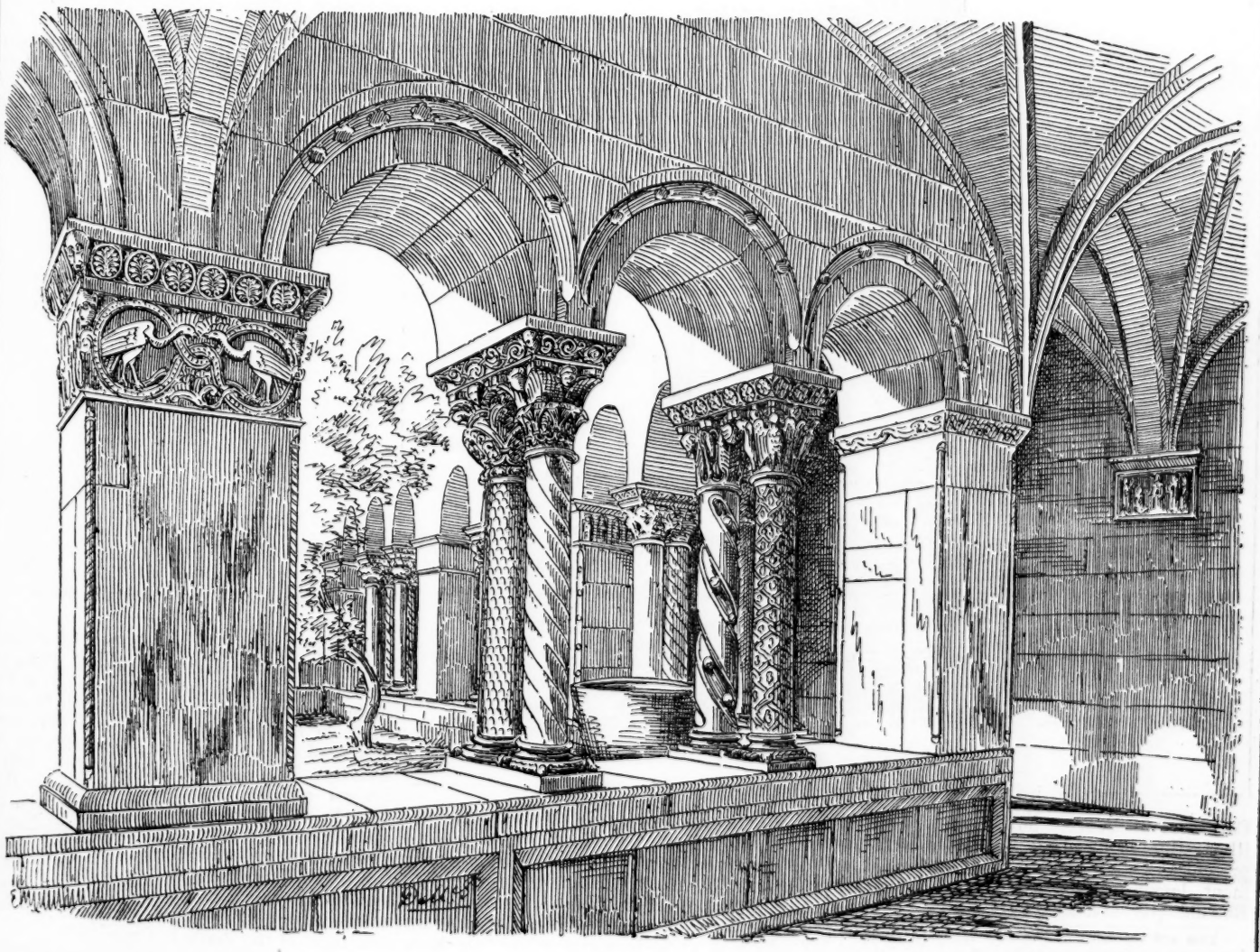
> "What Roman strength Turbia showed
> In ruin, by the mountain road;
> How like a gem, beneath, the city
> Of little Monaco, basking, glowed."

The contrast is picturesque, and obvious to every one; but the blending is even more interesting, and only fully obvious to the student of architectural developments. Mr. MacGibbon has added something to the illustration of this phase of architecture. He has given a well-written chapter to a review of the transitional period and its characteristics, and a great deal of illustrative sketching of the examples of the early Mediæval period, of what Fergusson distinguishes as the "Neo-Byzantine style." Mr. MacGibbon divides Provençal architecture into two styles, that in which debased forms of Roman ornamentation yet remained, and that in which this had been swept away through the ascetic influence of early monkish orders which condemned all ornament and decoration, and which thus was the means of more or less obliterating the tradition of Roman detail, and leaving the field clear for the growth of the new types of Mediæval detail. This may perhaps be the case as far as Provence was concerned; in a general way it may be said that the links between Roman and early French Gothic detail are very complete, and show an almost unbroken descent for the Gothic capital from the Classic. Such an interior as that of the

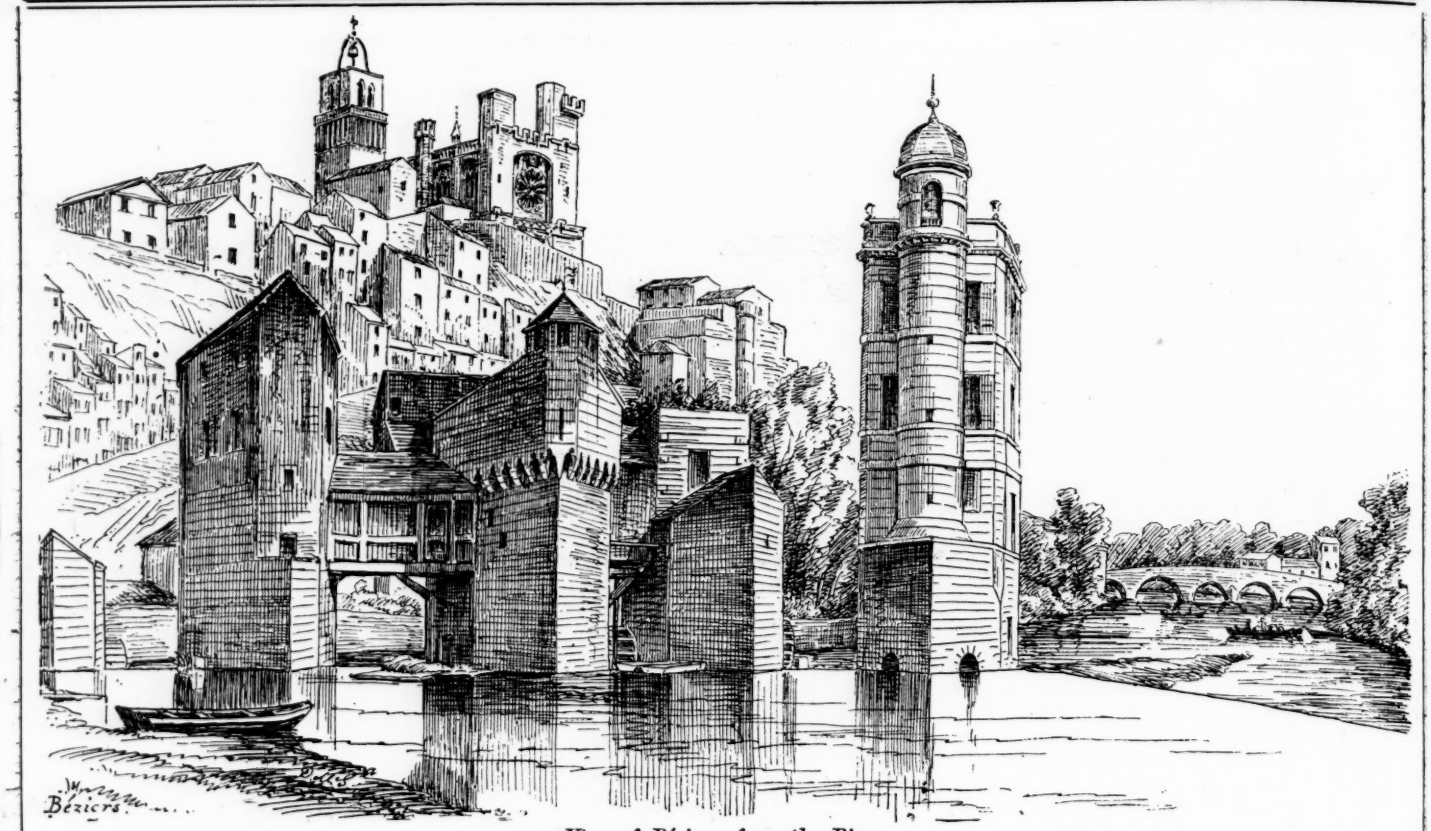
* The Architecture of Provence and the Riviera. By David MacGibbon. Edinburgh: David Douglas. 1888.



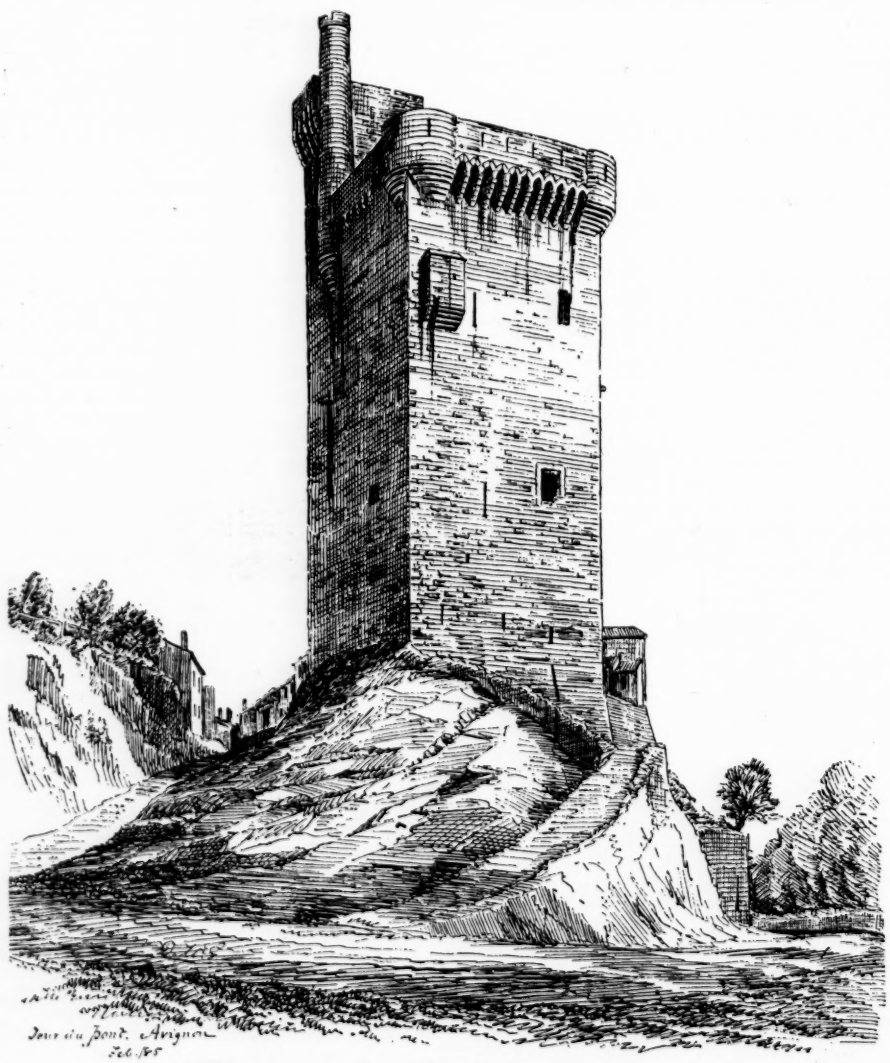
Interior of Church, St. Paul-du-Var.



Cloisters, Elne.



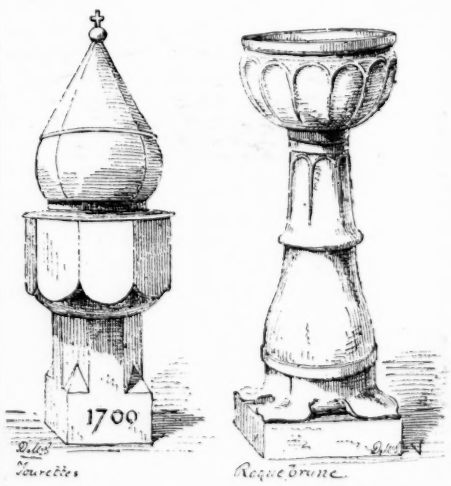
View of Béziers, from the River.



Tower of Villeneuve.

Cathedral at Vence,* however, of which an illustration is appended, certainly seems to present an entire obliteration of Classic ornament, leaving merely the bare form of the Romanesque arcaded and barrel-vaulted church, not unimpressive in its simplicity. As an indication of the scale, it may be mentioned that the nave is about 18 ft. 6 in. wide within the piers; the aisles are about 10 ft. wide. The choir, which ends in an apse internally, is nevertheless square externally. The exterior, of which a view is given which we have not reproduced, is as plain as the interior, and looks more like a castle than a church. This building the author attributes to the twelfth century. We should have given it an earlier date. The Church of St. Paul-du-Var, near the same neighbourhood, of which also we give the interior view, is of almost equal plainness, but with the pointed arch, with the heavy transverse roof-rib belonging to early vaulting, and so prominent a feature in St. Front and other churches of its type and neighbourhood. As far as we can gather, the author would refer this church and Vence, three miles distant, to the same date. A comparison of the two interiors, at all events, hardly conveys that impression.

* This and the other illustrations appended are reproduced from Mr. MacGibbon's drawings made for the book (and which he has kindly lent us for the purpose), but not on quite the same scale. The book itself, we may observe, contains nearly 300 such illustrations.



TOURETTES. ROQUEBRUNE.

Fonts.

Among the places specially visited and described is the ancient town of Elne, in Rousillon, a town standing on a height in the plain at the base of the Pyrenees, said to have been in ancient times a seaport, but now separated from the sea by a level expanse of country. It is a few miles south of the better known ancient town of Perpignan. The church at Elne, as viewed externally, is another of the extraordinarily castellated looking churches which are found here. The drawings of its cloister we reproduce: it is an exceedingly fine and picturesque specimen of arcaded work of this type; the variety in the treatment of the shafts is remarkable.

The view of Béziers, an old town of Roman foundation, and which was an important

fortified port in Mediæval times, is a good example of the picturesque effect of the solid castellated architecture which abounds so much in these Provençal towns. At the top of the hill, overlooking the town, stands the cathedral of St. Nazaire, seen in the distance in the sketch. This cathedral was in itself treated as a fortress. "It was surrounded by a fortified *enceinte*, and forming the chief citadel of the town, it was strongly built and designed for defence. The transept is the oldest portion, dating from the twelfth century. The southern angle buttresses are crowned with a parapet, pierced with flanking loopholes, angled so as to send missiles in every direction." Throughout the illustrations we come constantly on the same kind of stern frowning architecture; blind masses of wall pierced only here and there with a small opening. The streets of the towns are arched and buttressed over, in a manner often picturesque, but which was part of the same practical endeavour at giving the greatest strength and stability to everything. No one example could be more typical, perhaps, of this stern type of architecture than the tower of Villeneuve, which forms or formed the bridge defence at Avignon. It stands on the bare eminence like a sentinel, with its heavy machicolated cornice frowning over. It was built in the commencement of the thirteenth century. The Castle of Tarascon, shown in fig. 64 in the book, is another noteworthy example of massive castellated architecture, with round towers at the angles of the main block of building, while the walls are broken at intervals by square towers, the machicolations widening out all round at the top of each with a curious effect.

Of the two fonts illustrated, that from Tourettes is, as will be seen from the date, merely a little piece of seventeenth-century eccentricity, but the one from Roquebrune is a really interesting little bit of out-of-the-way design, with a good deal of character about it.

The book gives a most interesting survey of the peculiar architecture of the district, of which we have only alluded to a few examples. The illustrations are rather weakened in effect, to our thinking, by overshading and lining everywhere; they would have been more effective if the pen had been used with more restraint; their style, too, with a few exceptions, is a little hard and mechanical. They have the appearance, however, of being careful and accurate sketches, and as such afford a valuable summary of the architectural features of the district, to which Mr. MacGibbon's volume will furnish a useful guide for those who wish to visit the places described with the same object, while it gives a great deal of information for those who have not the opportunity of doing so.

NOTES.

THE London County Council has held two meetings since last week's *Builder* was published. At the first of these (as will be seen by the report which we give in another column) the Council agreed, but by a very narrow majority, to adopt the recommendation of the Special Committee on the question of Council Chamber accommodation, and to expend 10,000*l.* or so in alterations at the Spring Gardens premises. It was admitted by those members who championed the Committee's report that the proposed alterations were, at best, only likely to meet the wants of the Council for the next few years, and that additional premises would have to be hired for the accommodation of the staff displaced by the enlargement of the present Board-room. There is no doubt considerable force in the arguments used by some speakers against the proposal to at once build new and adequate buildings, viz., that the Council is not yet in a position to know its own wants in this respect, and that, after the lapse of a few years, it will have a better knowledge of its requirements. But the report of the Committee having been carried by a majority of only two in a Council not numbering two-thirds of its entire strength, it seems to us to be scarcely fair to the building trade to invite tenders for the proposed alterations, and then, when the tenders come before the Council, to raise anew the whole question whether the work shall be carried out or not, as seems to be the intention, judging from the conversation which followed the division. The Council should certainly definitely make up its mind whether it wants the work done or not before putting builders to trouble, expense, and waste of time in tendering.

THE origin of the myriads of small grains or spherules which form the bulk of our oolitic limestones of Portland, Bath, Doulting, Ancaster, &c., has always been enshrouded in mystery. Many attempts have been made to solve the problem, the best of which, perhaps, assumes that particles of sand, shell, or other matter, being brought into the presence of water containing a very high percentage of carbonate of lime, are covered by successive concentric layers of this lime as they are gently wafted about on the shallow sea-floor. New particles are continually brought into the field of operation and are in turn enveloped, the accumulation of these spherules eventually becoming of great thickness, forming in time a compact limestone. The structure of the small grains in any ordinary oolitic freestone is exactly in accord with what we should expect to find supposing this hypothesis to be true, whilst the latter is a perfectly rational explanation of the subject, inasmuch as we know of deposits of similar nature in process of formation at the present day. Still, we have always had some doubts as to whether the formation of the spherules in certain very coarse oolites (pisolites) was capable of explanation in the same way, and the current number of the *Geological Magazine* contains an illustrated article by Mr. E. Wethered, F.G.S., in which he shows that these coarse spherules have an entirely different origin. He demonstrates that they are, in reality, the remains of very lowly-organised animals referable, probably, to the foraminifera. Worm-like calcareous tubes with well-defined walls are bent and twisted around the central nucleus. Some of these tubes occur in irregular aggregations, whilst others are simple concentric twists. The spaces between the tubuli are filled up with crystalline calcite. The masses of pisolitic and oolitic spherules are nearly always cemented together with earthy carbonate of lime. On exposure to the atmosphere the cementing material is removed, and the spherules then stand out in relief and after a time become detached, and in this way the stone gradually decays. This is an important contribution to our knowledge concerning the weathering of limestones, in that it assists to explain why certain kinds of oolitic grains weather better than others; on the one hand we have spherules with a nucleus surrounded by earthy carbonate of lime which easily weathers, and on the other the nuclei of the spherules are enveloped by minute tubes usually made of sub-crystalline calcite, — a more durable form of lime. *Cæteris paribus* the latter is the more durable kind of stone, but the character of the material cementing the spherules is variable, and ought always to be taken into consideration in any question of this nature.

THE newly-elected Professor of Archæology, Mr. R. S. Poole, delivered his inaugural lecture at University College on Wednesday, May 8. Professor Poole began his lecture by a warm and graceful tribute to the work of his predecessor, Sir Charles Newton, a work which was necessarily confined exclusively to the field of *Classical* Archæology. That a considerable section of the public hoped this tradition would be maintained cannot be denied, but the electors of University College have shown by their choice of Mr. Poole that they desire the work of the chair to extend over a wider field, and they approve the scheme by which he divides his labours with specialists of high mark in the several departments of the subject. Professor Poole expressly stated that in his inaugural lecture he intended to deny himself all rhetorical expression of his personal enthusiasm for archæology, and even any definition of the scope and method of his subject, and that he would confine himself to an elucidation of the programme before him for the coming term. The next two lectures are to be given by Prof. Boyd Dawkins on "Prehistoric Archæology,"— one is to be given at University College, the other is to be a "clinical" demonstration class at the British Museum. "Savage Art" comes next, by Mr. Henry Balfour, of the Pitt-Rivers Museum, Oxford. The Professor himself takes Egyptian and Assyrian Archæology, and in the Assyrian demonstrations is assisted by Mr. Evetts. It will be seen that, so far, no place is given to Greek Archæology. This is not because Prof. Poole holds it lightly in esteem, but because he has in this matter the desire to meet a special practical need. He gives an introductory lecture on June 12 on "The Place of Archæology in School and University Education," and proposes, during the vacation, to begin classes of an educational character, especially for students in archæology, in the Final schools at Oxford and Cambridge. It will be abundantly evident from this sketch that the new Professor will make his office no sinecure; he has, moreover, issued an invitation to all intending students to take counsel with him at his house any day between the hours of nine and ten a.m. As Keeper of Coins his unceasing efforts to make the collections of the Museum accessible to students are well known; as Professor it is his great aim to systematise these efforts. His warm reception last week may, we hope, be an earnest of wide usefulness and popularity.

THE case of the Queen *v.* The Corporation of Newcastle is one which shows the desire which corporate bodies have to enlarge their sphere of action. To paraphrase a legal maxim, "it is the duty of a Corporation to increase its jurisdiction" in the eyes of the Corporation officials. The Corporation of Newcastle, by certain Acts of Parliament and by-laws, has powers to approve or disapprove of new buildings. It disapproved of one because they were of opinion that being a dwelling-house in tenements its erection would depreciate the character of the neighbourhood. The Court, of course, held that the Corporation could only disapprove of such buildings as violated some regulation or by-law. The idea of disapproving of a building because it depreciated the respectability of a neighbourhood is highly comical. There would be no end to the disapprovals if the contention if the Corporation had been upheld, and they might have even got so far as forbidding the erection of any building which was not in some particular style of architecture.

AT its usual weekly meeting on Tuesday last, the London County Council had before it the long-pending question of the appointment of an Engineer, in succession to Sir Joseph Bazalgette. As will be seen by the report of the proceedings which appears in another column, the Council has decided to appoint two officers,—a Chief Engineer, at a salary of 1,500*l.* per annum, and a Mechanical Engineer at a salary of 500*l.* per annum. It cannot be said that the salaries thus offered are excessive, if even they are adequate, considering that pensions have been abolished by the Council; but there was the usual nonsense talked by the so-called "economists." Councillor William Saunders moved that the salary to be paid to the Chief Engineer be 1,000*l.* per annum. Councillor John Burns seconded this,—somewhat inconsistently in view of his *dictum*, at a recent meeting of the Council, that no man's services were worth more than 500*l.* a year. This amendment was lost by a large majority. In connexion with this proposed appointment, a further amendment was moved by Councillor Lloyd, to the

effect that the Chief Engineer to the Council be not allowed to take private pupils, as was stated to have been the practice of Sir Joseph Bazalgette. This amendment was strongly supported by a few members of the Council, on the ground that the Chief Engineer would be required to devote his whole time to the duties of his office. From the tone of their speeches, some of these Councillors were evidently under the impression that such pupils (if any) would not be trained in the office of the Engineer to the Council, but at some private office or *atelier*. Councillor Brudenell Carter expressed the opinion that the Council were likely to get a higher class of applicants for the post if they did not impose any restriction as to pupils. Councillor Hunter spoke to the same effect, and said that the salary of £1,500 a year offered to the Chief Engineer compared very unfavourably with the £3,500 a year paid to Mr. Lyster by the Mersey Dock and Harbour Board, though the work which had to be done in London was quite as onerous. Councillor Horsley also spoke in favour of allowing the Chief Engineer to take pupils, arguing that the Council would "get excellent work out of them." Councillor Jackson "did not see why the office of the Engineer to the Council should be a nursery for instructing the future engineers of this country,"—which is certainly a narrow-minded Vestryman-like view of the question. Without pronouncing for or against the continuation of the pupilage system in the offices of municipal engineers, it may be pointed out that, if it has some disadvantages, it has in the past resulted in training for the public service some of the foremost municipal engineers of the day. Councillor Lloyd's amendment was rejected.

MR. SHIRLEY F. MURPHY, who was on Tuesday last elected Medical Officer of Health for the County of London, has already, although comparatively a young man, done good service to the public in connexion with sanitary matters. Some years ago he was, if we mistake not, Medical Officer of Health for St. Pancras, but for the last few years he has held an appointment as one of the Medical Inspectors of the Local Government Board.

THE Bishop of London is about to issue a Commission to examine, and report upon, the desirability of carrying out a union of benefices which is proposed between the existing united rectory of St. Edmund the King and Martyr, and St. Nicholas Acons, Lombard-street, in Langbourne Ward, and the existing united benefices composed of the rectories of All Hallows' Lombard-street with St. Benet Gracechurch, St. Leonard Eastcheap, and St. Dionis Backchurch. The first-named united rectory dates from after the Great Fire, when St. Nicholas Acons Church,—its precise situation, as well as the derivation of its name, being now unknown,—was not rebuilt. The London and County Banking Company's premises, in Lombard-street, cover the site of the rectory-house, and the old parish engine or "bone" house, which latter, according to custom, stood near, if not next to the Church. The then London and County Bank removed in 1846 from No. 71 to No. 21, Lombard-street, which house, in the year 1746, was known by the sign of the Anchor and Crown, and thirty years later by that of the Three Kings when occupied by Smith, Wright, & Gray, bankers, who afterwards amalgamated with Esdailes & Co. The present premises, since enlarged, were built, in 1860, after the designs of the late Mr. C. J. Parnell, architect. We are informed by the Secretary and the Manager that on the demolition of the rectory-house some vaults were found beneath, containing human remains, and also the bed of a stream — possibly that of the Langbourne, which flowed through this quarter. The site is leased from the Ecclesiastical Commissioners. Some interesting particulars about the history of the parish property were rehearsed in course of a recent suit arising out of the contested administration, by the Charity Commissioners, of the City of London Parochial Charities Act, 1883. That dispute turned, as in two previous instances, upon the vexed question as to whether certain property had been lawfully scheduled by the Commissioners as "charity property" within purview of the Act. In the case of St. Nicholas Acons the property includes a small sum (261*l.* 15s. 10d.) in Consols, some rents for rights of light over the existing parish churchyard, and two parcels of land, next westwards of Nicholas-lane, formerly, it is alleged, part of the churchyard, and now occupied by part of the banking-house above-mentioned. St. Benet Grasschurch, corrupted into Gracechurch, as rebuilt by Wren, was pulled down a few years ago in pursuance of the Union of Benefices Act, 1860. With this parish had been united that of St. Leonard Eastcheap, otherwise termed St. Leonard Milkchurch, in Bridge Ward Within,—a church which was not rebuilt after the Fire, and whereof a portion of the graveyard was dug up for making Monument railway-station. St. Dionis Backchurch, dedicated, it is said, to the memory of Dionysius the Areopagite, stood in Fenchurch-street, at the southern end of Lime-street, and was demolished a few years since. St. Edmund's has also been styled St. Edmund's Grasschurch, from the ancient market in this quarter; and in the parish books of St. Benet, or Benedict, were entered many curious items of the defacements and restitutions that ensued, respectively, upon the accession of Queen Mary and that of her sister Elizabeth. Three labourers, for example, received 2s. 4d. for pulling down the "altars and John," a day's work; in 1642 the "superstitious brasses," stripped from off the gravestones, were sold for 9s. 6d.

THE following are a few quotations from a long report to the Local Government Board (February 22), by Mr. Spear, on "Sanitary Administration in the Bridgend Registration District, Glamorganshire, with special reference to the arrangements existing in the district for the discharge of the duties of Medical Officer of Health." The registration district of Bridgend covers an area of 107,957 acres, or about one-fifth of the whole county of Glamorgan:—

"*Bridgend and Cowbridge District.*—Wherever in this district there is any collection of dwellings, sewage nuisances have been allowed to arise. Generally speaking, the liquid refuse flows in dilapidated gutters or over bare surfaces to the nearest watercourse or to some stagnant pool; solid excreta accumulate for long periods in privy pits, often mere holes sunk in the vicinity of the dwellings, while ashes and house refuse are scattered indiscriminately over the surface of the ground. In only two places did I find that any serious attempt had been made to provide for the sewerage of a locality. . . . For Aberkenfig, a mining village, and the most populous part of the rural district, the authority has for years had the question of sewerage under consideration; and it is alleged that the difficulty of obtaining land for outfall works has proved an insuperable bar to their action. Meanwhile the nuisances that have arisen here in consequence of inaction are extreme. In this village of Aberkenfig the only attempt in the district towards public scavenging has been made. An arrangement has been entered into with a neighbouring farmer to remove ashes, &c., deposited in certain fixed receptacles provided by the authority, and also to cleanse periodically the bed of a brook running through the village, into which much of the sewage finds its way. The equivalent offered for this service is the value of the manure removed; and the arrangement, owing probably to the smallness of the remuneration, has not answered, and the work is neglected. The emptying of cesspools, privies, &c., is everywhere left to owners or occupiers of houses. Cesspit privies of most objectionable type and construction are still erected under the direction of the authority, and where water-closets are provided, the discharge pipe is often left unventilated, and connected with an unventilated cesspool. It is only exceptionally (in the case of a few houses at Porthcawl) that flushing apparatus for water-closets is provided. . . . . In both the Cowbridge and Llanharan districts, I found the grossest nuisances prevailing in consequence of the defective methods of excrement disposal; in both I found houses that from structural condition were unfit for human habitation; and in both I found, amongst other ill conditions connected with water supply, people resorting to streams polluted by crude sewage. . . . . At Porthcawl, in the western district, the medical officers of health are never consulted respecting the administration of the building bye-laws, nor, except for a few general remarks in one of Dr. James's reports as to the advisability of the ventilation and disconnexion of house-drains, do I find that any attempt has been made on their part to fulfil this important function of their office. Accordingly, the most important by-laws, from a sanitary point of view,—as to construction of drains, cesspools, privies, foundations of houses, the ventilation of bedrooms, &c.,—are habitually ignored. Under the Dairies, Cowsheds, and Milkshops Order, premises are registered upon the advice of the inpector of nuisances alone. . . . The medical officers of health are never consulted on the subject. . . . . The effect of this system of sanitary management is to obliterate the most important function,—that of an adviser of the sanitary authority,—of the medical officer of health; and this in its turn disorganises the whole sanitary machinery.

Bridgend District.—The great want in this district is a proper system of sewerage and drainage. . . . . The most important of the main sewers are constructed of rough masonry, and could only be properly used for the conveyance of storm-water. One at least consists of the natural rough bed of a more or less stagnant stream that has simply been arched over. Into these channels, upon which the sanitary authorities annually spend 30*l.* in attempting 'disinfection,' most of the pipe-sewers that have been constructed discharge. These latter are very imperfectly ventilated, and one, intended to serve the populous locality of Old Castle, is laid so shallow that several small branch streets cannot be connected. The private drainage of the town is generally much in need of attention. Drains, I am told, are often found constructed of brick or stone, and leaky. They are generally unventilated, and water-closets are not provided with water for flushing purposes. . . . .

Maesteg District.—There are many houses in the district so damp, dilapidated, ill-ventilated, and otherwise ill-provided (in matters of drainage and sometimes of water supply) as to demand the attention of the authority with a view to their closure. The Lyfni and Tondû Coal and Iron Company, the great employers of labour in the district, are the owners of some such houses; and since the pinch of falling prices was felt, they have in several cases required their workpeople, as a condition of employment, to occupy the houses in their possession. The requirement is inimical to the health and comfort of the men and their families, and in several instances has led to the vacation of more decent dwellings for others unfit for habitation. . . . . Ventilation of sewers is very imperfectly provided for. The sewers and other channels spoken of receive as a rule sewage in a form the most offensive and most difficult of removal, that is to say, when far advanced in decomposition, from the overflow of cesspits, &c. Closets consisting merely of roughly-bricked holes, with an overflow to the nearest sewage-channel, still exist in large numbers. . . . . No official representation has been made by the medical officer of health as to the houses in the district unfit for habitation.

Ogmore and Garw District.—The sewage, or such of it as gets removed from the neighbourhood of dwellings, practically all finds its way into the streams. . . . At Pontycymmer a large number of utterly neglected pail closets are in use. The emptying of pails is left to the tenants, and their only practicable plan is to bury the contents in their tiny plots of garden ground, usually uncultivated and often rising steeply from the backs of their houses, or descending steeply to those of their neighbours. I am told that after heavy rains it is not infrequent to find excrement washed down to the very doors of the dwellings. In this place, Pontycymmer, typhoid fever is indigenous. . . .

Cowbridge District.—Such sewers as exist are of very rude construction, consisting chiefly of the old stone highway drains. . . . . The sewers discharge into the little River Thaw at a part spoken of as the Poplar Pool, 200 yards or so from the centre of the village, and somewhat nearer the grammar school and other houses. In summer the water here is almost stagnant, and at Poplar House, close by, used as a private day-school, the inmates complain of its offensiveness. Moreover, within a mile of its course (*sic*), the stream traverses the village of Llanbleithan, in the rural district, where some of the inhabitants complain of, while others drink, the water. The Cowbridge authority have lately, in direct contravention of the provisions of the Rivers Pollution Prevention Act, and of all sanitary proprieties, greatly added to the pollution of this pool by constructing a new pipe-drain from the cattle market to empty into it. A few pan and water-closets are connected with the sewers described, but for the most part excrement is disposed of in cesspools. The latter are made large and deep, and with a view to the soaking away of their contents. They stand often close by and even against the walls of houses, and when full the excavation of supplementary holes appears to be commonly preferred to the removal of the accumulated filth. Privy accommodation of this sort is not only still provided by private property owners and builders, but is that chosen by the authority. . . . . In a house-yard only 11 ft. square a deep cesspool was excavated about two years ago, and the medical officer of health tells me

that since that date there have been amongst the inmates of this house three attacks of 'croup,' repeated attacks of gastro-enteritis, one of true diphtheria, and a death from 'epidemic pneumonia.' The authority make no provision for the removal either of excrement or house refuse. . . . . Dr. Meller (the medical officer of health) has not yet reported on the sanitary condition of the town, but has notified the recent outbreak of disease. He states that he is never consulted by the authority, and the recent further pollution of the Thaw by the action of the authority, and the recent construction by them of cesspools such as I have described, were without his approval. . . . . Much of the wretched house property in the town belongs directly or indirectly to town councillors."

Mr. Spear concludes by recommending the appointment of a medical officer of health who shall comply with the terms of his appointment in "making himself acquainted with all causes affecting, or threatening to affect, the health of his district," and suggests that, under the circumstances, a combined appointment, or the appointment by the sanitary authorities severally of one man, ought, in the interests of the district, to be made.

IN Dr. Ballard's report to the Local Government Board (February 18) on the prevalence of diphtheria in the Camelford Rural Sanitary District, the following were among the conditions noted in the district as favourable to the development and spread of the disease:—

"One unwholesome condition is observable almost universally, namely, dampness of the walls of dwelling-houses, and especially of workmen's and labourers' cottages. This is due to two causes: one of these is absence of spouting at the eaves, and the other is the fact that the dwellings are generally constructed of irregular-shaped, slabby pieces of slate rock, the refuse of the quarries, laid often in such a way that rain beating on the wall outside tends to run downwards towards the inside of the dwelling; further, the mortar used having been made with sea-sand, is consequently absorbent and retentive of water. Hence it is not only the basements of houses which are apt to be damp, but the bedrooms also. Delabole stands high, rain is abundant, and wind often violent in the winter, so that walls thus constructed readily get soaked through, and dry but tardily.

"Setting aside the town of Camelford, which, it appears, has been pipe-drained, there is observable generally in the district an absence of systematic and efficient drainage. . . . . 'Nuisances,' as defined by the 91st section of the Public Health Act, receive but scant attention as respects removal or abatement, and it may fairly be said none at all with a view to prevention. . . . . Many cottages are without any privy accommodation. In these instances the common practice is to empty excrement out of domestic vessels upon a midden heap, sometimes close to the house, raking some ashes over it to obscure its offensiveness. . . . . The water supplies, in many instances, are liable to dangerous pollution. Dr. Jerome, who accompanied me in my inspection of the sub-district, pointed out several wells supplying dwellings, both isolated and situated in the villages and hamlets, which had been sunk in a porous soil within a few feet of undrained stables, cowsheds, or the like."

The following memorandum is worth note, as a part of the brighter side of the picture:—

"One redeeming feature of the district is the remarkable cleanliness which I observed in the interior of the dwellings of the labouring class. Persons of this class evidently aim habitually at cleanliness and neatness of themselves and their children, as well as at domestic cleanliness and neatness. Both are exemplary. However damp the slate floor might be, and however damp the walls might be, all was usually clean within, and the women and children clean and neat also. Such people deserve the aid of their sanitary authority in maintaining cleanly surroundings for their houses."

A MEMORIAL CROSS to the memory of Madame Jenny-Lind Goldschmidt, from the design of Mr. C. B. Birch, A.R.A., has just been erected in Malvern Cemetery. It is of a very simple character; a cross rising from a base of Swedish granite; in the face of the granite, just beneath the base of the cross, is a circular medallion inlaid with a marble bas-relief of a lyre and laurel-wreath, with a ribbon bearing the word "Excelsior."

WE print in another column a letter of remonstrance which has been laid before the Improvements Committee of the London County Council in regard to the church of St. Mary-le-Strand. We commend to the attention of the persons who are clamouring to pull down this church not only the terms of the letter, but also the list of names by which it is signed. Possibly the London tradesman and his allies may come to the conclusion that a building which not only architects, but men so eminent in literature and art as Mr. Browning, Mr. John Morley, Sir John Millais, and Mr. Tadema, consider worth preserving, may have a little more value as an architectural adjunct to London than they were quite aware of.

ARCHITECTURE AT THE ROYAL ACADEMY.—III.

1834. "St. Cecilia; design for stained-glass": Mr. George Parlby. A window with late Gothic buttress and canopy work in nearly white glass, enshrining a figure of St. Cecilia in finely-designed drapery, white with yellow diapers; the head of the figure is sweet though too quiescent in expression for St. Cecilia; it is relieved against a background of crimson diaper within the canopy work. The architectural detail is not altogether in the style of treatment for stained-glass: not flat enough.

1835. "St. Michael's, Waterloo-Ville, Hants; Sketch Design": Mr. Leonard Stokes. A charming little pencil drawing of a building which may be a house, a school, or a nunnery, or several other things of various kinds; a plan would have told us something about it. The centre block has two gables with wide bay windows under them and a door and porch with small columns forming a shadow between them; the windows are very picturesquely varied in design and treatment; the wing projecting on the right, with three rather large traceried windows above and very small lights below, gives the idea of a chapel with a crypt under it; the small plain octagon bell turret at the re-entering angle adjoining this wing is very well placed; the whole design is very picturesque though with the simplest treatment. The drawing appears to be by the same draughtsman as No. 1819, and unfortunately it is marred by the same rough and rather clumsy suggestions of foliage in the foreground. The architectural portion is admirable as a bit of clean effective pencil sketching.

1836. "(1) Tower of the Badia, Florence. (2) Church of Notre Dame de l'Epine. (3) South-west Tower, Senlis": Mr. Arnold B. Mitchell. Beautiful examples of finished pencil drawing of architectural subjects; the centre drawing of Notre Dame de l'Epine especially so. This is almost in pure outline, the richness of detail in the subject itself preventing any appearance of bareness in the drawing, which is only heightened by a few little "dark" touches here and there. The main vertical lines are done with a ruler, a method which does not belong perhaps to the highest school of architectural perspective drawing, but it is in keeping with the whole style and object of the drawing, in which neatness and finish are aimed at.

1838. "Building in course of erection for the Institute of Chartered Accountants": Mr. John Belcher. Of this, or at least of the original competition drawings, we gave illustrations in the *Builder* of January 12 of this year. There are two elevations, and small plans are given in the corner of the drawing. Like all Mr. Belcher's designs, this is marked by a great deal of originality, but it may be rather questioned whether some elements in this originality are quite in "good accent and good discretion." In the ground-floor, where there are square-headed windows with rusticated piers between, there is no distinction made between the treatment of the large library on the left side and the small offices on the right, the two halves of the design being symmetrical. The first-floor windows are square-headed with a kind of entablature over them, and with mullions and transoms; over the entablature is a semi-circular window, looking like a small mezzanine. On the string level with the entablature of these windows stands a plain Roman Doric engaged order occupying the upper portion of the design (with circular-headed windows between), and carrying the main cornice, which seems too light for the building, as the order on the other hand seems too heavy for the cornice and for its position, and we cannot say that the effect is very harmonious. The portion of this upper storey that is beneath the window-sills is occupied by a continuous sculptured bas-relief, into which the aforesaid quasi-mezzanine windows cut rather awkwardly. The effect of the segmental pediment over the principal entrance, with the two little side scrolls curling out of it, is also rather more odd than happy. The wall space between the ground and first-floor windows is very agreeably broken by terminal figures which rest on the cap of the lower rusticated pilaster, and rise above and break the line of the first-floor string. The way these figures are inserted is one of the best points in the design, which is of considerable interest as an attempt to use the elements of a Classic façade in a novel manner, though we do not regard it as entirely successful.

1839. "New Parochial Schools; St. Bartholomew the Great, E.C.": Mr. Aston Webb. Another bit of original work, but as this does not deal with such rigid material as Classic detail, it is easier to be original without giving a shock to architectural orthodoxy. The building stands at the back of St. Bartholomew's Church, the apse of which is seen rising behind; it is almost impossible to describe it exactly, except to say that it shows a very picturesque effect obtained mainly from the mere grouping and placing of doors and windows, and of a low octagonal bell turret which seems to grow out of an angle of the building. The inscription "Schools: St. Bartholomew," is playfully introduced between small strings so as to run round the angle of the building, which is shown in a happily touched and effective pen drawing.

1841. "Parsonage, Church of the Good Shepherd, Courthope-road, Hampstead": Mr. James Brooks. This we illustrated a little while since (March 23 of this year). It is a house picturesque in the outline of its plan, and the intention appears to have been to bind together this rambling outline of the plan by running across it two level series of mullioned windows all of the same height and treatment: but the effect is a little flat and monotonous.

1843. "Design for a Village Church": Mr. Gerald C. Horsley. An exceedingly simple little church of one aisle only (plan appended); a small perfectly plain square tower with a conical roof with eaves overhanging, and two pieces sliced out of each face just under the eaves for louvres, gives the only bit of marked character to the building. A lean-to porch projecting from the nave wall to the outer face of the tower connects the latter with the composition; a buttress projects at the point where the chancel arch occurs. A buttress is constructionally required here, and none is used anywhere else. The church is such a one as might be built with local labour on local materials in a country place.

1845. "Design for Proposed Residence, Sutton, Surrey": Mr. W. Hilton Nash. A coloured elevation of a red-brick house with red-tiled roofs, and bands of white brick introduced in the lower portion of the walls. In a considerable portion of the elevation the upper portion is half timber work with long parallel vertical posts. The conservatory-looking erection on the roof at the right looks out of keeping with the style of the rest of the house.

1847. "Design for an Academy of Arts": Mr. R. Willock. This looks as if it were meant for the site of the National Gallery; a large columned portico is projected in the centre, and a rather narrower one at each end, the latter being crowned with cupolas, while the centre one has no such finish, but there is a large dome behind over the centre (we presume) of the plan, which is not given. The centre portico is projected too far and would thus interfere with the view of the whole façade, and materially shorten it from many points of view; and this intrusive effect of the centre portico is rather increased than otherwise by the fact that it has no crowning feature over it; as it seems to have stepped out all this way from the line of front for no purpose.

The Sanitary Institute.—At a meeting of the Council of the Sanitary Institute, held on the 8th inst., Sir Douglas Galton, K.C.B., F.R.S., in the chair, it was resolved to present a memorial to the President of the Local Government Board with reference to the measures for the consolidation of the statutes relating to sanitation and the housing of the working classes. Fifteen Members and Associates were added to the register, and twenty-four applications were read for election at the next meeting.

Illustrations.

RESTORATION OF TEPIDARIUM, CARACALLA'S THERMÆ.

THIS is a reproduction from Professor Aitchison's fine water-colour drawing, No. 1,864 in the Architectural Room at the Royal Academy, called in the catalogue "A Study in Colour of the Tepidarium of Caracalla's Thermæ." In our plate, of course, the colour element is unavoidably absent, and the lithograph does not convey any just idea of the effect of the drawing in this respect; but it gives Professor Aitchison's idea of the architectural design of the Tepidarium, which it may be interesting to compare with that by the late Professor Cockerell, published in the *Builder* for March 23 last.

For Professor Aitchison's own ideas as to the Roman Thermæ, and this particular department of them, we must refer the reader to the full reports of his Royal Academy lectures which have recently appeared in our columns.

NEW CATHEDRAL, HALIFAX, N.S.

THE new cathedral for Halifax, Nova Scotia, will stand on a site (lately purchased) bounded on the west and north by important thoroughfares, while a third street will run directly westward from the west front. The instructions given were that the church should provide accommodation for 1,000, that there should be no central lantern, and that the morning chapel should be at the west end. A simple style has been selected, and one which should show the connexion with the mother country. The plan has been arranged symmetrically, so as to obtain some of the stateliness of a cathedral, without great size. The drawings explain themselves, but it might be added that the morning chapel is to have a flat panelled ceiling, and the library will be over it. The cost is estimated at 60,000*l*. The first stone was laid some few months back, and it is hoped that a regular start may soon be made. The drawings illustrated have been made from the full-size details, which are complete. The architect is Mr. Arthur Edmund Street. The drawings are exhibited in the Architectural Room at the Royal Academy.

SCULPTURE AT THE ROYAL ACADEMY.

THE two works illustrated this week, "Motherless" and "Bequeathed by Bleeding Sire to Son," are respectively numbers 2,036 and 2,023 in the Royal Academy, and stand in the Octagon Hall, and are both by the same sculptor, Mr. G. A. Lawson. The group entitled "Motherless" is an admirable example of the treatment in sculpture of a subject from every-day life, and is noteworthy both for its genuine pathos and for the fine composition of the group.

MEMORIAL STATUE TO LE VERRIER.

THIS is the memorial statue at Paris to Le Verrier, the great French astronomer who, almost concurrently with the English astronomer Adams, discovered the planet Neptune, having previously predicted its existence and its place in the heavens, by the analysis of the perturbations of Uranus. He is represented as pointing with his finger to the spot on the celestial globe where the new planet should be.

The statue is by M. Chapu, and has been erected in the court of the Observatory at Paris.

Liverpool Architectural Society. — A paper was read at a meeting of this society last Monday, by Mr. J. Starkie Gardner, of London, entitled "Early English Ironwork." The meeting was presided over by Mr. E. Kirby, F.R.I.B.A. (President of the Society), and after the paper was concluded a vote of thanks was proposed by Mr. G. E. Grayson, and seconded by Mr. J. M. Hay. The annual meeting of the Society will be held on Monday, May 27.

The Arts and Crafts Exhibition Society.—The second exhibition of this Society will open in the New Gallery, Regent-street, on October 7,—the days for sending in will be the 16th, 17th, and 18th of September. We hear that a new departure will be made in the sale of the exhibits, in which, it will be remembered, the Society last year took no part. The Society, however, will make no profit upon the sales. The evening lectures will again be a feature of the exhibition.

AN ELECTRIC RAILWAY IN SCOTLAND:

LOCOMOTION BY WATERFALL POWER.

ONE of the attractions of the Forestry Exhibition, Edinburgh, a few years ago, was a very small and not very elegantly finished, though sufficiently illustrative example of railway travelling by means of electricity supplied *en route* from a stationary, or, more strictly speaking, non-locomotive, depôt. This was the first, and, until very recently, the only movement in that direction within the bounds of the Northern Kingdom, although the subject has all along been canvassed with some interest. An electric railway for the actual performance of daily work has at length been attained, and that under rather novel circumstances. This new and still not quite finished railway, although it is to carry, and, indeed, already is carrying, both passengers and goods, is not the production of a joint-stock company heralded by a roseate prospectus, but that of a private gentleman who did not herald his little scheme at all; and the electricity is not generated by steam-power, although coal is abundant and of low value there, but simply by catching up for that purpose a driblet of the squandered force of a neighbouring waterfall, a source of power long talked of all over the world, but hitherto hardly at all drawn upon except for the driving of mill machinery planted in the immediate vicinity of the force exerted.

North-going travellers by the London and North-Western know Carstairs Junction, the first express stoppage after Scotland is entered, and the place where the train divides itself into two parts, one proceeding north-west to Glasgow and the other north-east to Edinburgh. This is in the close neighbourhood of the three great "Falls of Clyde" of the guide-books, situated two or three miles to the south-west; and of numerous lesser falls, also, which would have been well heard of on their own account but for the more commanding presence of these others. Scotland's pioneer electric railway starts from this junction. The grounds of Carstairs House, a property lying to the south and west, come to within a narrow space of the station buildings; but the mansion itself is situated at some distance away, near to the southern or opposite boundary of the policy, and it is between these two points that the enterprising proprietor, Mr. Joseph Monteith, has laid down his modest, yet highly interesting, and perhaps typically promising, strip of railed track. Road-making at this point is of very old date, for close to the mansion, and within the bounds of the property, a few hundred paces to the south, and not far from the remains of a military camp, passes one of the trunk causeways of the ancient Roman province of Valentia, connecting the Hadrian and Antonine barriers, with still discernible traces of the style of work affected by these stern civilisers of eighteen centuries ago. Mr. Monteith's modern contribution to the science represents a tremendous advance in principle; and yet it is humble enough in its proportions, extending as it does to rather less than a mile and a half, on a narrow gauge of 2 ft. 6 in. Leaving the junction (whose metals, of course, it does not join, owing to the broken gauge), the line soon enters the demesne lands, and these it keeps all the way to its terminus at the mansion house, after a somewhat devious course; by this means, however, securing a comparatively level road, while at the same time affording a passing glimpse of the choicest bits of park scenery here available. The railway, with its equipment of plant, will perform all the service between these two points hitherto done by horse-drawn carriages and carts over the ordinary roadway; at least, that is understood to be the present thought and intention of the builder and proprietor. For passenger accommodation there is a car mounted on four wheels, the rest of the rolling-stock consisting of luggage-vans, and wagons for coal and other rough commodities. The electric motor, which is fixed to the passenger car below the floor and is capable of working up to 14-horse-power, is of the Gramme order, with a tooth-wheel which, by an endless chain, communicates its revolutions to a corresponding wheel on the driving axle, and thus realises the desired locomotion.

By far the most interesting feature, however, is the original source of the power which is hereby electrically exerted, and has already resulted in a speed of over thirty miles an hour, accompanied by the certainty of a considerable increase when the installation is completed up to the scope of the primary design. It is a region of waterfalls; and the three chief Clyde cascades in the vicinity have for some years been discussed as comprising an exhaustless outflow of demonstrative energy, capable of being partially embargoed, reclaimed from uselessness, and applied electrically to various local, and also more distant, functions; but these particular stores of unutilised force are still untouched. The Mouse Water discharges into the Clyde immediately above the lowest of the three great falls, after passing turbulently through some glen and ravine scenery of a most striking kind. The principal leap of this tributary is the Cleghorn Falls, situated three miles up from its junction with the Clyde, about the same distance westward from Carstairs House, and not far from the point where the Roman Causeway above spoken of crosses the Mouse flood on its way to the north. A turbine placed in fitting position at the break of these falls drives the dynamo to which it is immediately geared, the current being thence conveyed by wires carried aloft on poles over the three miles of intervening distance, to within two hundred yards of Carstairs House. Here the wires, suitably insulated, are led to an underground conduit, and are thus carried to the acting battery, which has place in convenient proximity to the mansion house terminus of the line. Along the line the current finds passage by insulated conductors, one on each side of the track, and into the motor itself by brushes projecting from the sides of the car, these, when the latter is in motion, maintaining the necessary flow of current by means of the passing contact or friction, which contact may be suspended at will, and the train brought to a standstill. The power of the descending water at Cleghorn Falls is not to be confined to the service of this railway, if the proprietor realises his full design; but will in time drive all the mill machinery on the home farm, light up the mansion house, and discharge other less important departments of work on the estate. A circumstance greatly to be regretted in connexion with this interesting beginning of practical electric railway locomotion in Scotland is the death of a young electrician, an assistant of Mr. Monteith in these projects, who on one of the trial runs fell from the car to the track and was fatally injured.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS:

THE ANNUAL REPORT.

THE Annual Report of the Council of the Institute, as approved and adopted at the annual general meeting held on the 6th inst., contains the following passages:—

"Almost the first work of your Council, elected at the annual meeting of 1888, was to submit for the consideration of the general body of members the draft Bylaws prepared under the provisions of the Supplemental Charter. This draft was adopted, with some amendments, on the 14th May, 1888, and was confirmed on the 28th of the same month, when it was ordered to be submitted to the Lords of the Privy Council. But the Lord President was advised that the Bylaws could not be approved until some definition of the character of the Examination which Associates have to pass, and the terms and conditions of competition for certain prizes, had been inserted therein. These additions having been made and submitted, an intimation was received that the Bylaws, as altered, might properly be approved, so soon as the corporate seal of the Institute had been affixed thereto. The additions and amendments were consequently submitted to a special general meeting on the 14th January, 1889, when the Bylaws, as added to and amended, were adopted; and your Council having been authorised to sign and seal the same, their lordships' approval was given on the 7th February, 1889, and announced on the 25th by a communication received on the 18th of that month.

The attention of your Council having been called to the evidence taken by the Metropolitan Board of Works Inquiry Commission, affecting members of the Institute, copies of that evidence were officially asked for and obtained from the Royal Commission. An extraordinay meeting of your Council, convened by the President, was held, and action was at once taken in regard to five members of the Institute, with the result that, at the opening

meeting of the present session, an announcement was made from the Chair of the expulsion of one Fellow. In the case of another Fellow resignation had intervened; and with regard to the others (two Fellows and one Associate) your Council addressed to all three respectively a censure upon their conduct as disclosed by the evidence taken by the Royal Commission.

Prior to the close of last session your Council issued to all members of the Institute, to archæological and other societies, and to persons likely to be interested in the subject, a revised edition of the paper which was first published in 1865, and entitled 'General Advice to Promoters of the Restoration of Ancient Buildings' and 'Hints to Workmen engaged on the Repairs and Restoration of Ancient Buildings.' In the re-issue the original document was divided into two, and made uniform with other similar Institute Papers.

About the same period your Council addressed a letter to the Right Hon. David Plunket, M.P., First Commissioner of Works, on the subject of the retention of the present Admiralty, and the addition to it of new buildings on the lines of the old building, according to a scheme then just submitted to Parliament and known as the 'Admiralty Buildings Extension Scheme,' and against the adoption of which your Council respectfully recorded their protest, on the grounds mainly that it would involve the perpetuating of evils inherent to an old and perishing structure, and that the application of public money for such a purpose would be unwise and unjustifiable. Your Council ventured to hope that any vote that the House of Commons might be asked for in respect of the scheme might be deferred, and they called the attention of the First Commissioner to the memorial which the Institute had submitted in 1886 to his predecessor, the Right Hon. the Earl of Morley, and to the plan accompanying it, whereby the approaches to Whitehall and to the Mall might be widened, and the general effect, from an architectural point of view, considerably improved. The official scheme, however, was virtually adopted by the House of Commons, and the only concession obtained was a statement by Mr. Plunket that the Government intended to extend the Mall to Charing Cross.

A Bill proposing to amend the Metropolis Management Act, 1855, the Metropolitan Building Act, 1855, and the Acts amending the same respectively, prepared at the instance of the Metropolitan Board of Works, was introduced into the House of Commons last session, and a statement of objections against some of its provisions, forwarded by your Council to all the Metropolitan Members of Parliament, was published in "The Journal of Proceedings," but the Bill did not reach a second reading.

The new Local Government Act not having made any provision for the proper examination of technical officers employed by the urban and rural authorities, your Council, while the Bill was under consideration both in the House of Commons and in the House of Lords, called attention to this defect, but without success. In a letter addressed on the 3rd August, 1888, to Lord Balfour of Burleigh, who had charge of the Bill in the Upper House, the President reiterated a part of the arguments used in the letters on this subject previously addressed to the Local Government Board, and suggested the addition to the Bill of a clause to the following effect:—

> Except where the Local Government Board for reasons brought to its notice may see fit in particular cases to allow, no person shall hereafter be appointed architect, engineer, surveyor, or building inspector for any district, or the deputy of any such offices, unless he holds a 'certificate of competency' to fill such office granted after examination by the Royal Institute of British Architects, or the Institution of Civil Engineers, or the Surveyors' Institution; or unless he has held a similar office, during three consecutive years for a district or combination of districts, with a population according to the last census of not less than 20,000.

At the Statutory Examination held in October, 1888, when eight candidates presented themselves, two were granted Certificates of Competency to act as District Surveyor in London. . . At the second half-yearly Examination, held on the 25th and 26th April, 1889, fourteen candidates presented themselves, of whom four were granted Certificates of Competency to act as District Surveyor in London. . . . .

Three Examinations in Architecture have been held during the official year, one in Liverpool and two in London. At the first of the London Examinations, held in November, 1888, thirty-one out of thirty-eight who presented themselves passed; and the remaining seven were relegated to their studies for one year. At the second of the London Examinations, forty-five out of fifty-nine who presented themselves passed; and of the remaining fourteen, one did not pass, while thirteen were relegated to their studies. At the Liverpool Examination, which was conducted by a Board appointed by the Liverpool Architectural Society,—and consisting entirely of Fellows of the Institute,—nine applicants presented themselves, of whom six passed, and three were relegated to their studies. The number of applicants for admission to the three Examinations was 106, of whom eighty-two have been declared qualified for candidature as Associates; and your Council would fail in their duty if they did not express their cordial appreciation of the great services rendered by the examiners, involving an enormous devotion of time and labour on the part of those who accept these honorary posts. Your Council are greatly indebted to the Liverpool Board, and especially to Mr. Alfred Culshaw, who acted throughout as honorary secretary to the Board. Nor would this reference be complete without recognising the zeal and ability with which the Chairman of the London Board has from the commencement conducted the oral portion of the Examination, wherever it has been held,—this year at Liverpool, and previously at Manchester, Leeds, and Glasgow.

By the seventeenth section of the Bylaws any non-Metropolitan Architectural Society, consisting in whole or in part of professional members, may under certain conditions be allied with the Royal Institute; and a letter was consequently addressed, as early as last May, to all such Societies within the United Kingdom which were in correspondence with the Institute, asking for information and particulars in respect of which they might claim such alliance. Their replies, and the rules or bylaws and the lists of members of the several Societies forwarded therewith, having been examined and considered, your Council recommended as eligible for alliance the following Societies, viz.:—(1) The Sheffield Society of Architects and Surveyors; (2) The Leicester and Leicestershire Society of Architects; (3) The Manchester Society of Architects; (4) The Glasgow Institute of Architects; (5) The Northern Architectural Association; (6) The Bristol Society of Architects; (7) The Nottingham Architectural Society; (8) The Royal Institute of the Architects of Ireland; (9) The Liverpool Architectural Society. This recommendation, having been submitted to a special general meeting on April 8, 1889, was approved and adopted; and the nine Allied Societies were at once communicated with, in order that their Presidents, if Fellows of the Institute, might be nominated for seats on the Council, with the result that seven of the nine will be represented on the Council for the ensuing year of office.

At the same meeting, the Report of the Education Committee, as approved by your Council, was submitted for consideration, and adopted. Furthermore, your Council were requested to prepare the detailed particulars and conditions necessary for developing and carrying out the scheme; and also to communicate with the Allied Societies, in order to secure their effective co-operation in so developing and carrying it out.

This scheme, it should be added, can only be rendered successful by the hearty and loyal co-operation of every member of the Institute; and your Council would urge all members to do their utmost not only to bring forward their pupils for the respective stages of examination, but also to induce the advanced pupils to enter for the final Examination without delay. The Allied Societies, it is hoped, will immediately proceed to constitute themselves 'centres,' and to organise the requisite measures for making the scheme known to architectural students in their respective localities.

The Royal Gold Medal for the promotion of Architecture was presented, in June, 1888, to Baron von Hansen, of Vienna, for his works as an architect. At the meeting, which was attended by the Chevalier von Krapf, the Austro-Hungarian Consul, on behalf of the Baron, the President delivered an address, in which he expressed the admiration felt for the elevated character and refinement of the Royal Gold Medallist's works, and a hope that he might live for many years to add to the beauty and fame of Vienna and of that other and older city of his adoption, Athens. The Medal for the current year has been awarded to Sir C. T. Newton, K.C.B., Antiquary to the Royal Academy of Arts, for his works as a man of science and letters; and, the royal sanction having been received, the Medal will be presented at the closing meeting of the present session.

The public presentation of prizes, instead of, as in previous years, being deferred until the end of the session, took place on Jan. 28, 1889, at an ordinary meeting, in which the business of the evening was introduced by an address to students delivered by the President,—a happy innovation, and a proceeding which henceforth, it may be hoped, will be of annual occurrence. . . . .

During the twelve months elapsed from April 1, 1888, to March 31, 1889, the additions to the Library amounted to 191 volumes and 118 pamphlets, and to the Loan Collection 93 volumes and 21 pamphlets; exclusive of Parliamentary papers, periodicals, reports and Transactions of Societies, parts of works issued in a serial form not yet completed, and trade-lists. The number of volumes presented to the Library was 157, and to the Loan Collection 68. Of pamphlets, 101 were presented to the Library and 20 to the Loan Collection. The foregoing enumeration includes the books of the Botham bequest, omitted from last year's return, in consequence of the arrangements respecting them being then incomplete. . . . . The works purchased comprise 34 volumes and 17 pamphlets for the Library, and 25 volumes and one pamphlet for the Loan Collection. The want of shelf-accommodation, referred to in last year's Report, was partly met by the erection last summer of some new book-cases in the Arbitration-room. These new cases have enabled the Library Management Committee to adopt a suggestion made by some members a short time since,—to appropriate temporarily two or three cases to a certain number of books of reference for easy access by readers.

The attendance of readers in the Library from April 1, 1888, to March 31, 1889, numbered 3,906 (last year 3,288). . . . .

The Art Standing Committee report that since the last election their work has been continued under three main heads:—(1) The Conservation of Ancient Monuments; (2) Public Improvements; (3) Exhibitions of Architectural Drawings and Photographs. With regard to the first, the original paper of 'General Advice to Promoters of Restorations' was considered,—a sub-committee having revised the document, making a few additions thereto, with the valuable assistance of Mr. Ewan Christian, Mr. J. L. Pearson, R.A., and Mr. A. W. Blomfield, A.R.A. Certain proposed alterations to Barfreston Church have been also considered in consultation with the architect in charge of the work; and an earnest appeal was made against the threatened destruction of two fine Tudor houses in North-street, Exeter. Last, but not least, the condition of the Church of St. Mary-le-Strand, and the attempt made for its removal, have engaged the zealous attention of the Committee, more particularly under the head of public improvements. They have long had under consideration various suggestions for improving the roadway while retaining the church, and there is ground for hope that the steps taken to ascertain what is actually proposed by the would-be destroyers of the church may result in a modification of their scheme. In view of the agitation for the removal of the Church of St. Mary-le-Strand, which has been promoted by some of the residents in the Strand, on the alleged ground that it constitutes an obstruction to the public traffic, your Council have done all in their power to preserve so unique and beautiful an example of the architecture of the last century; and have addressed a letter to the London County Council on behalf of the Institute, showing from incontrovertible facts that the church does not obstruct, but rather facilitates the traffic, and that to remove it would be an act of vandalism. The threatened encroachments upon the frontage-line of the Marylebone-road, the question of the triangular plot of land behind the National Gallery, the height of new buildings at Albert-gate and Queen Anne's-gate, have also been before the Art Standing Committee, and recommendations respecting them made to your Council. In the matter of exhibitions, the Committee concluded their work for Melbourne at the beginning of the current official year, and the Exhibition about to be opened in Paris has since engaged their attention. On their recommendation your Council appointed a Committee of Selection, on which some architects not members of the Institute

accepted invitations to sit, together with members resident in the provinces as well as London; and they have succeeded in obtaining a large number of drawings and photographs representing the progress of British Architecture during the past ten years, which have been sent to Paris at the cost of the fund raised by the Fine Art Committee of the British Section, of which Sir Frederic Leighton, P.R.A., is the Chairman, — the Institute having been accredited as the channel through which architectural drawings intended for the Paris Exhibition would alone be received by the authorities.

The Practice Standing Committee report that they have devoted a great deal of time to the paper of 'Conditions of Builders' Contracts.' They have also been engaged in the preparation of Forms of Articles of Pupilage, which they have submitted to your Council. In these forms an attempt has been made to induce the master or principal to allow his pupil the necessary time during his articles to prepare for the several Examinations which will ultimately qualify him for candidature as Associate; and now that the Institute has approved and adopted the scheme of progressive examinations, it is hoped that every member will encourage his pupils to become Probationers, then Students, and afterwards Associates of the Institute. A Bill put forward by the Metropolitan Board of Works, and previously referred to, for the Amendment of the Metropolis Building Acts, another Bill to restrict the Height of Buildings in the Metropolis, and several questions in professional practice, have been considered by the Practice Standing Committee, and duly reported on to your Council.

The Science Standing Committee report that, on the resumption of the discussion on theatre construction and arrangement, it was decided to extend the inquiry to public buildings generally, under certain specified headings; for which purpose the Hon. Secretaries of the Committee have already obtained information from many provincial towns and from the chief continental cities. With reference to the subject of 'Light and Air,' the Committee report that their first business, on the transfer of this section of work to them, was to prepare a digest of the many papers and notes which had been acquired by their predecessors, a duty undertaken by the Vice-Chairman, Professor T. Roger Smith.

A full and interesting account of the work done by the Competitions Committee since the presentation of the Memorial of 1880, by the late Mr. Street, was printed in the "Journal" on February 14, 1889, and an analysis of competitions held during the two years 1886 and 1887 was given with it.

The particulars given in last year's Report of the steady increase in the numbers for admission were so full that it would be a matter of supererogation to enter into detail in this Report. During the official year now terminating, sixty-eight Fellows (twenty-six of whom were previously Associates) and seventy-six Associates have been elected. The number of Fellows is 497, and the number of Associates 727, making a total of 1,224 professional members, as against 1,145 last year.

Since the last annual meeting the decease of fourteen professional members has to be recorded. Amongst the Fellows, Messrs. E. N. Clifton, John Griffith, C. F. Hansom (Bristol), Pearson B. Hayward (Exeter), William Hill (Leeds), Henry J. Paul (Manchester and London), C. Richard Pink (Winchester), R. P. Pullan, and James Salmon (Glasgow). Amongst the Associates, Messrs. John Cowell, John Cundall (Leamington), E. F. Dawson (Gibraltar), George Sparrow, and T. Heygate Vernon. Two Hon. Associates have died,—namely, Lord Seaton and Mr. Frank Holl, R.A.; and one distinguished Hon. Member, Mr. T. Gambier Parry."

The Revenue Account and Balance-sheet of Ordinary Funds for the year ended December 31, 1888, signed by the Auditors, are submitted with the report. Authority to sell 1,000*l.* stock for the purpose of meeting extraordinary expenditure, during 1887 and last year, has been availed of to the extent only of 775*l.*, and the loan of 1,000*l.* obtained in 1887 from Messrs. Herries, Farquhar, & Co. has been paid back in full.

Messrs. Strode & Co. have opened new branch West-end show-rooms at 188, Piccadilly.

ARCHITECTURAL ASSOCIATION VISITS:

THE IMPERIAL INSTITUTE.

In spite of the unfavourable weather, the most numerously attended visit of this session was made on Saturday last to the buildings of the new Imperial Institute, now in course of erection from the designs of Mr. T. E. Collcutt.

The visitors were met by the clerk of the works, who first showed them the drawings, and enabled them to study and appreciate the careful and refined character of the detail.

The workshops and masons' sheds were next inspected, with the stoneworking machinery for sawing, moulding, planing, rubbing, &c. Much interest was shown in this plant, which has been fitted up by the contractors, Messrs. Mowlem & Co., in a very complete manner. The particularly sharp and clean lines of the machine-worked mouldings in straight lengths were especially noticed. Circular work, mitres, and other finishings are, of course, worked by hand. The stone used for the works is Portland externally, and principally Hopton Wood internally.

A tour through the buildings was then made under the guidance of the clerk of the works, in order that the members might obtain some idea of the foundation works and the iron construction.

The walls being as yet only up to the first floor level, the artistic qualities of the work are hardly in evidence, and hopes were expressed by many of the members that further visits will be made when the building is in a more advanced state.

THE CHURCH OF ST. MARY-LE-STRAND.

The following letter and resolution were laid before the Improvement Committee of the London County Council on Wednesday, by a deputation including among their number Mr. Walter Crane, Mr. T. G. Jackson, Mr. Arthur E. Street, Mr. Selwyn Image, Mr. Mathew Anderson, and Mr. Herbert P. Horne:—

"Sir,—The controversy, which has for some time raged around the Church of St. Mary-le-Strand, has now reached a very serious crisis. Efforts have been made to raise the funds necessary to put the building in proper repair, and at the present time one half of the amount required has been subscribed or promised; yet a determined attempt, backed by the support of one of the most influential of the daily papers,* has been commenced to sweep it, and after it St. Clement Danes, clean away. Those who are vigorously forcing on this action, justify it on two grounds: first, that St. Mary's is an obstacle to traffic; secondly, that it is a bad piece of art. At the same time they are ready to confess that were it a good piece of art, they would be quite prepared to let it stand, in spite of its practical obstructiveness.

Now it is hard to believe that the advocates of this measure have been at the pains to come at a true artistic judgment. We, the signatories to this letter, hold St. Mary's to be a most interesting and beautiful specimen of a particular and fine kind of architecture; and in this opinion we are confident that we should have the concurrence of the vast majority of those who are best able to give a sound artistic opinion on the question. We, therefore, beg to make this public protest against the proposed demolition of the church, considering that the loss of it would be the loss of one of the most beautiful buildings in London; from which we trust that the finer sense of the community will save us.—We remain, sir, faithfully yours,

Geo. Aitchison, A.R.A.	John Morley, M.P.
L. Alma-Tadema, R.A.	William Morris.
John F. Bentley.	C. Kegan Paul.
G. F. Bodley, A.R.A.	John L. Pearson, R.A.
James Brooks.	Ed. J. Poynter, R.A.
Ford Madox Brown.	W. B. Richmond, A.R.A.
Robert Browning.	Christina Rossetti.
E. Burne-Jones, A.R.A.	John D. Sedding.
Walter Crane.	Arthur Edmd. Street.
Austin Dobson.	R. Norman Shaw, R.A.
T. Garner.	Frederic Shields.
Alf. Gilbert, A.R.A.	H. Thornycroft, R.A.
Herbert P. Horne.	Hermann Vezin.
S. Image.	Alf. Waterhouse, R.A.
T. G. Jackson.	G. F. Watts, R.A.
Fred. Leighton, P.R.A.	Philip Webb.
J. E. Millais, R.A."	

In addition to this letter we would also ask your attention to a resolution passed at the ordinary meeting of the Art-Workers' Guild, held at Barnard's Inn Hall, on Friday, May 3, 1889.

Proposed by T. G. Jackson, M.A., seconded by J. J. Micklethwaite, F.S.A.,

"That the Art-Workers' Guild desire respectfully to present to the London County Council their unanimous desire, that any scheme for improving the Strand, with reference to the convenience of locomotion, may provide for the retention of the churches of St. Mary-le-Strand and St. Clement Danes: which are in the opinion of the Guild, and they believe in that of the majority of artists, among the greatest architectural ornaments of London."

Walter Crane, *Master.*
Wm. C. Marshall, *Hon. Treasurer.*
Mervyn Macartney, } *Hon. Secretaries.*
Gerald C. Horsley, }

* The memorialists have certainly over-estimated the "influence" of the paper referred to, among educated people at all events.—Ed.

THE MADEIRA-ROAD IMPROVEMENT, BRIGHTON.

Mr. G. R. Andrews, C.E., the newly-appointed Borough Surveyor of Brighton, sends us the following description of the works now being carried out on the Madeira-road, Brighton. The Madeira-road, as many of our readers will remember, is the road which runs alongside the beach eastward of the Aquarium, below the cliff on the top of which is Marine Parade:—

"There will be a raised terrace, 1,304 ft. in length and 25 ft. in width, extending from the steps opposite the Royal-crescent to the steps opposite Paston-place, forming a raised promenade between the Esplanade on the Marine Parade and the Madeira-road, and protected on the outer edge by a strong fence and handrail. This terrace will be accessible either from the Marine Parade or the Madeira-road by the Royal-crescent or the Paston-place steps, or by the hydraulic lift, which will be placed opposite the centre of Marine-square, and for the use of which a nominal charge will be made. By means of this lift visitors and others will be able to save the fatigue of climbing the steps, or the more prolonged ascent of the Duke's mound, and invalids in hand-chairs may be lowered from the Marine Parade to the raised terrace or the Madeira-road, or *vice-versâ*. A continuous seat is also provided on this raised terrace, next the wall, extending the whole length.

In the centre, and underneath the raised terrace, near the lift, will be a spacious shelter-hall, with well-appointed lavatories on either hand,—on one side for ladies, and on the other for gentlemen. Adjoining the shelter-hall, and opening therefrom, are two reading-rooms, each 56 ft. by 24 ft., and beyond these will be covered walks 18 ft. in width, extending the remainder of the length. The raised promenade is supported on cast-iron columns and wrought-iron girders, with ornamental spandrels; the roof or ceiling to be of concrete, with asphalte walk on the top. The following materials, &c., will be used in executing these works, viz.:—About 5,000 cubic yards of excavation; about 2,000 cubic yards of concrete; 300,000 bricks; and 600 tons iron.

The scheme was designed by my predecessor, Mr. Philip C. Lockwood, C.E.; the contractors are Messrs. J. Longley & Co., of Crawley,—the contract sum being 13,975*l.*, and the time for completion the 30th of September next.

When these works are completed they will, doubtless, be found a great public accommodation in hot, wet, and cold weather, protected as the sheltered walks will be from the sun and rain, and also from the north, north-east, and north-west winds."

THE POSSIBILITIES OF ARCHITECTURAL EXAMINATION.

It has often been urged, in reference to examinations instituted as tests of architectural proficiency, that the real essence of architecture, the power of design and of æsthetic appreciation, is a subject that cannot be tested by examination; and we are inclined to think this is, on the whole, true; at all events, that the difficulty of discriminating fairly and fully as to artistic power, by any form of examination, would prove almost insuperable, partly from the difficulty of getting any common consent as to the standard of appreciation to be adopted, from either examiners or examinees. Knowledge of building as a science can be tested with precision, and those who know that they have only attained the rudiments of such knowledge will readily defer to the superior knowledge acquired by long years of study and experience. But in the case of artistic power there is no such easily established standard of greater or lesser acquirement. Nevertheless the remarks made by Mr. A. B. Pite at the recent discussion at the Institute on the subject of education, are so well

put, and so interesting as the expression of the feeling of one of the younger members of the profession in regard to the influence of examination from the artistic point of view, that we have pleasure in reprinting them here, as they are given in the last issue of the R.I.B.A. *Journal*:—

"There can be no doubt that the Board of Examiners and the Council are to be congratulated upon the extreme success of the examination for Associateship. It is a success which I venture to say has strengthened the Institute before the country at large, and it has drawn round our ranks a fence of professional qualification which no doubt is very valuable. But as we look back upon a period of work, may we not ask, what has been the effect of examination upon architecture as a fine art? What has been the effect of the perforce study of the antiquarian department of the programme? and what has been the result, from the art point of view, of forcing our students into archæological rather than into inventive grooves? Has this Institute really considered the result of the examination upon the art of architecture? I venture to say this is one of our first duties. If a national style is to be evolved at all, it ought to be evolved from this body. It ought to play a very important part in this examination. This may seem very dreamy, and very much outside the range of the test examination; but I venture to suggest that it is very necessary, and should receive our consideration. It is upon the detail that the artistic effect of the architect's building depends, and it should, I think, be made a prominent feature in the art section of the examination; and, more than this, I think that the study of full-sized mouldings should be enforced, and an opportunity offered to students in the examination to draw mouldings full-size; but the sheets of paper at present allowed do not give them the opportunity of doing so. I think there are gentlemen here who will bear me out in saying that the study of a moulding otherwise than full size is a fallacious study, and it can have no direct bearing upon an architect's practice. It may be interesting from an archæological and antiquarian point of view, but from a practical point of view it is useless. I find that in the course of study and preliminary work there will just be a door for the introduction of carefully-studied detailed drawings; but in the examination itself it will probably be cramped up into the small hours of Wednesday afternoon. Why not start the student in his examination with his plan, follow him up with his elevation, let him then go into details, and work out the problems of the buildings, and then proceed to put him through the practical dissection and analysis of his building, his specification, his estimate, and so forth, to complete the design, and thus make the examination follow in a parallel line with the architect's actual practice? Inasmuch as the architect is of all things a designer, a man who has to exercise his inventive faculty, some means should be taken in this examination to test thoroughly his capacity of design. The tendency of the examination at present is to test his capacity as a copyist. Cannot something be devised, possibly by an extension of the time afforded to the designing, to allow his fancy to play in the direction of invention? I would also ask that a candidate's power of appreciating architectural beauty should be tested. Why not ask the candidate to write down the elements of beauty in a known building? Ask him to describe the impression the building produces upon him. Ask him to give his reasons for considering that building to be a beautiful building—and you will be training him in design; you will be enabling him to grasp the buildings that come under his notice in practice with a view of their being made beautiful. And may we hope, Mr. President, when another generation has passed, to see 'Classic' as against 'Perpendicular' struck out of our programme, which they now fill to the apparent exclusion of the very beautiful style of the early Renaissance?"

A Floating Theatre.—The St. Petersburg *Vedomesti* states that a company has been formed in that city for the building of a steamer to contain a theatre, for the purpose of performances at those towns on the Volga and other rivers where there is no theatre. The vessel is to be built on the American principle, with two decks, and will, in addition to a theatre, with sittings for 1,000 persons, contain full accommodation for the company, orchestra, &c. The tour is to be begun in June next.

THE SURVEYORS' INSTITUTION:

PROFESSIONAL EXAMINATIONS, 1889.

THE following Student Candidates have passed the Examination for the Professional Associateship:—

Bridgford, L. A., Manchester.
Burton, P. C., Ealing.
*Dendy, W. C., Brondesbury.
Galsworthy, V. S., Queen's Gate, S.W.
Garrod, J. R., Surbiton Hill.
Giddy, O. H., Staines.
Grover, A., Stamford Hill.
Hadley, F., Moseley, nr. Birmingham.
Haslam, D., jun., Caversham.
Kaye, E. P., Wakefield.
Linsell, W. D., Southampton.
†Muir, J., Bournemouth.
Parris, C. J., Hastings.
Pochin, T.C. P., Leicester.
Robinson, J. K., Kirkby Lonsdale.
Rowley, W. T., Histon, Cambridgeshire.
Saunders, C. H., Bayswater.
Stainton, F. C., East Dulwich.
Sturley, A. D. Canonbury.
Taylor, W. H., Moseley, Birmingham.

* Special Prize, 1889. † Institution Prizeman, 1889.

The following *non*-Student candidates have also passed the examination for the Professional Associateship:—

Assiter, H. G., Brixton.
Ball, W. A., Forest-hill.
Barnes, G. F., Chester-square.
Bellingham, A. T., Swansea.
‡Brown, A. M., Tring, Herts.
Colbourn, H. J., Woolhampton.
Darch, J., Balham.
Dudley, E., Chatsworth.
Forster, W. H., Norwich.
Grant, J., Croydon.
Goddard, A., Leicester.
Hardy, T., Tulse-hill.
Head, J. G., Upper Baker-street.
Higgins, G., Finchley-road.
Mason, C. W. H., St. John's, S.E.
Perkins, J., Edgbaston.
Puckridge, P. M., Marlborough.
Sampson, W., Beauchief Abbey.
Satchell, H. A., Putney.
Selby, F., Canonbury.
Tyler, J. W., Upper Tooting.
Wain, G. S., Bedford-park, W.

‡ Driver Prize, 1889.

The results as regards the Fellowship Candidates will probably appear in our next issue.

THE LONDON COUNTY COUNCIL.

The Housing of the Council.—At the supplemental meeting of the London County Council, held at the offices, Spring Gardens, on Friday, the 10th inst., the adjourned discussion of the report of the Council Chamber and Offices Committee (printed in the *Builder* for April 13 last, p. 283, together with the report of the minority of that Committee) was the first business taken.

Sir Walter De Souza, the Chairman of the Committee, admitted that the accommodation to be provided by the alterations proposed by the Architect's plans, and which were estimated to cost £10,000, would only be, comparatively speaking, of a temporary nature, but they would serve for a few years, long enough for the Council to be better able to judge of their actual necessities when they came to consider the question of housing themselves and their officers all under one roof. That would ultimately be a necessity, but the Council would be acting prudently to defer so large an operation for a few years, in order that they might see how far their work would increase, as increase it would. If the recommendation of the Committee were adopted, it would be necessary to seek for additional premises in the immediate neighbourhood to serve as offices for such portions of their staff as would be displaced by the enlargement of the present Board-room at Spring-gardens. It was proposed to enlarge the Board-room by removing the wooden screens and galleries at each end, so as to afford sitting-room for every member of the Council. The Press Gallery it was proposed to set back and enlarge (so as to seat 45 reporters and other Press representatives) by carrying it through the wall which now exists at that end of the Board-room, the present Public Gallery being removed altogether from its existing position and located along one side of the Board-room (to the right of the Chairman) by carrying it through the wall on that side of the apartment.

In the course of the subsequent discussion, Mr. James Beal moved as an amendment that the report be referred back to the Committee for reconsideration. He contended that the proposed outlay in tinkering the Spring-gardens premises would be wasteful and disappointing. He referred to what had been done, and was being done, both in this country and in America (in Philadelphia and Chicago, for instance) in the way of providing adequate municipal buildings. Was the great city of London, he asked, to be behind any other city in the world in this respect? The London County Council wanted administrative offices on a much larger scale than they at present possessed. It was very essential that their staff and committees should be housed under one roof.

The amendment was seconded by Mr. J. Williams Benn, and after some further discussion, in the course of which the Deputy-Chairman (Mr. Firth) and Dr. Longstaffe spoke strongly of the overcrowded state of the offices in Spring-gardens, and of the "noisome atmosphere" in which many members of the staff had to work, the amendment was lost by forty votes for to forty-two against it, and the report of the Committee was then agreed to, although the Chairman (Lord Rosebery) expressed his regret that the question had been decided by so narrow a majority. It was, however, intimated, in the course of a brief conversation which followed, that tenders would before long be invited for the work, and that when these came up the whole subject could again be raised.

Width of New Streets.—Mr. G. B. Holmes (Chairman of the Building Act Committee) submitted the following recommendation of the Committee—

"That the Vestry of St. Pancras and Messrs. Clutton be informed, with reference to the application of Messrs. Clutton, for approval of a plan for widening Greenland-place, Camden-town, for carriage traffic, that although Messrs. Clutton have, at the suggestion of the Building Act Committee of the Metropolitan Board of Works, made certain alterations in their plans, the Council is unable to approve of the application, as the width of Greenland-place will still be insufficient to meet the requirements of the statute."

After a long discussion, the recommendation of the Committee was carried.

Tenders.—The first business after the confirmation of the minutes at the ordinary weekly meeting, held on Tuesday last, was to receive tenders for the formation of a wood-paved carriageway and York stone foot-ways, and other works, in connexion with the widening of Coldharbour-lane, Camberwell. The tenders, as opened by the Chairman (Lord Rosebery), will be found under the head-"Tenders" in this week's *Builder*.

The Engineer's Department.—The Report of the Standing Committee, brought up by Sir John Lubbock, the Vice-Chairman of the Council, contained the following paragraph:—"On March 12, the attention of the Provisional Council was called by the Main Drainage Committee to the fact that the Chief Engineer of the Metropolitan Board, and one of the Assistant Engineers, had resigned their offices, and that, moreover, several of the principal assistants had sent in their resignations. The Committee expressed the opinion that the Council should take into consideration as early as possible the question of filling these vacancies; and the Provisional Council approved the report. Sub-committees appointed by your Committee are, as has already been stated, inquiring into the staff of the various departments of the Council's service; and the Sub-committee which is inquiring into the engineering staff is of opinion that it is desirable for the Council to proceed as early as possible to appoint a Chief Engineer and also a Mechanical Engineer. Other recommendations were made by the Sub-Committee, which it appears to your Committee may stand over for a time to be considered with other matters relating to the department; but it is desirable that the Council should not longer remain without a Chief Engineer and a Mechanical Engineer. The last-mentioned officer, your Committee may mention, would be directly responsible, under the Chief Engineer, for the whole of the machinery belonging to the Council and its economical working. The recommendations of your Committee are as follow:—

'That a Chief Engineer be appointed, at a salary of 1,500*l.* a year, and a Mechanical Engineer, at a salary of 500*l.* a year; that each of them do hold his office during the pleasure of the Council, that he be required to give his whole time to the duties of his office, and be not allowed to take any private practice; and that the appointments be, in other respects, subject to the conditions which have been already laid down by the Council with regard to all appointments made in its service.

'That advertisements be issued inviting applications for the two appointments, and that the applications, when received, do stand referred to the Standing Committee with instructions to select (after conference, if necessary, with other Committees concerned) and report to the Council, the persons whom it considers the most suitable for the appointments.'"

There was considerable discussion upon these recommendations; firstly, upon a verbal amendment in the last line of the second recommendation, to the effect that the Committee should submit to the Council the names of three candidates for each office; secondly, upon the question of the salary of the Chief Engineer; and, thirdly, upon the question whether that officer should be allowed to take pupils. Eventually the recommendations of the Committee were adopted.

Appointment of a Medical Officer.—The Standing Committee also reported that, advertisements having been issued inviting applications for the post of Medical Officer under the conditions specified in the resolutions of the Council of March 26 last, nineteen candidates presented themselves. The Sanitary Committee and the Housing of the Working Class Committee, having examined the applications, informed the Committee that they concurred in the opinion that the most suitable candidates were Mr. Shirley F. Murphy, Dr. T. O. Dudfield, and Dr. E. Seaton. The Committee having seen these three gentlemen, and made inquiry into their respective qualifications, recommended:—

"That Mr. Shirley Forster Murphy be appointed Medical Officer of Health of the County of London, at a

salary of 1,000*l.* a year, the appointment to be held during the pleasure of the Council, and to be subject to the conditions set forth in the resolutions of the Council of March 26 last."

It being intimated that some members of the Council desired to vote upon all three names, the Chairman asked for a show of hands, the names of the candidates being taken alphabetically. As the result of the first show of hands, the Chairman declared Dr. Seaton to have the fewest number of votes. The final vote was then taken, with the following result:—For Dr. Dudfield, twenty-three votes; for Mr. Murphy, seventy-three votes. Mr. Murphy was therefore declared elected. Some time later on in the course of the sitting of the Council Mr. Murphy appeared on the dais, and was introduced by the Chairman. He briefly returned thanks for his election, and said he hoped to be able to do good work for London.

Enlargement of Pauper Lunatic Asylums.—The Provisional Asylums Committee, of which Mr. P. M. Martineau is the Chairman, reported that, in compliance with the resolution of the Council, they had obtained detailed information as to the accommodation for pauper lunatics in the asylums which had been or might be transferred to the County of London. Those statistics showed that the present number of lunatics for whom asylum provision should be made by the County was rather over 10,300, and there were also about 1,000 Middlesex and Croydon patients that would probably have to be provided for in the asylums that had come, or might come, into the possession of the Council. The accommodation in the Surrey asylums at Wandsworth and Cane-hill, Coulsdon, which had been taken over by the Council, and in the asylums at Hanwell, Colney Hatch, and Banstead, which might come to the Council, was only for 8,350 beds, or nearly 3,000 short of actual needs. The result was that patients had to be boarded out either in other county asylums or in licensed houses. Additional expense, estimated at nearly 30,000*l.* per annum, was thus thrown upon the ratepayers, and that loss could only be prevented by providing further county asylums. Having regard to the present insufficient accommodation, and the gradual increase in the number of pauper lunatics, the Committee recommended:—

"(1) That the asylum for pauper lunatics at Cane-hill, Coulsdon, which at present contains accommodation for 1,124 patients, be enlarged so as to accommodate 2,000 patients, in accordance with the plans approved by the Secretary of State, and that it be referred to the Committee to take the necessary preliminary measures with a view to the enlargement of the asylum in accordance with the Local Government Act, 1888, and the Lunatic Asylums Act, 1853.

"(2) That, in the event of the Commisioners under the Local Government Act, 1888, apportioning the site and foundations of the proposed additional asylum for pauper lunatics at Claybury, near Woodford, to the County of London, the Committee be authorised to take the necessary preliminary measures in accordance with the Local Government Act, 1888, and Lunatic Asylums Act, 1853, with a view to the completion of such asylum."

These recommendations were agreed to, and after the transaction of a great deal more business, the Council adjourned, after sitting more than four hours.

IMPORTANT ARBITRATION CASE.

KIRK & RANDALL *v.* THE EAST AND WEST INDIA DOCK COMPANY.

IN the Court of Appeal last week, Mr. Justice Denman delivered the considered judgment of himself and Mr. Justice Stephen in this important case. The facts of the case have already been stated in the *Builder*. It was a motion on the part of the dock company to set aside the award of Sir Frederick Bramwell in favour of the contractors in this great case, perhaps the largest arbitration case which has yet come before the Courts, the award being for the sum of 165,000*l.* The contract was for the construction of the new docks at Tilbury. The main part of the work (excavation) was to be at a certain rate per cubic yard. The contractors found that the soil was not firm so that when excavated the sides would stand, but rather in the nature of slush or half-liquid mud, which would not so stand, and therefore required to be kept up by some support, which largely exhausted the amount to be paid by the contractors for the work, who consequently made a large additional claim beyond the contract price of so much per cubic yard, and this claim was the subject of the arbitration. The arbitrator admitted evidence as to the nature of the soil, and the company thereupon applied to the Court to revoke the submission to arbitration on the ground that this was an irrelevant matter. The Court, however, declined, and so did the Court of Appeal. The concluding passage of the judgment was as follows:—On the whole, we are unable to say that the arbitrator has committed any mistake in law, or applied any of the evidence before him for any purpose for which it might not be legitimately applied. We therefore think that the award of December 3, 1888, is a good award for £165,164. 5s. 11d., and that the rules which have been argued before us as to the validity of that award under the two submissions of November 26, 1885, must be discharged with costs.

The following counsel appeared in the case:—The Attorney-General (with him Mr. Moulton, Q.C., Mr. Cripps, and Mr. R. Wallace) for the contractors: Sir Henry James, Q.C. (with him Mr. Pollard, Mr. Kenelm Digby, and Mr. G. Mildmay) for the company.

WHITE PAINTS.

SIR,—In my article on "Some Special White Paints," published in your issue of April 27, I remarked that Griffith's zinc white was not quite white in tone, but of a creamy hue. Within the last few days I have received a sample of zinc white from Messrs. Griffith Brothers, for which they claim a purity of tint as white as carbonate of lead, either in oil or in powder. I enclose a portion of the sample, from which you see the claim is justified. In the interests of decorators and all persons interested in the use of perfectly innocuous white paint, I think my remarks on the *creamy hue* of Griffith's zinc white should be amended by the publication of the fact that it is no longer so, but of a true white nature. H. C. STANDAGE.

May 11, 1889.

A CAUTION.

SIR,—Will you permit us to caution your readers against a man of about fifty-five years of age, who is going about and giving bogus orders for machinery and plant in the names of well-known builders? He paid us a visit last week, and gave us an order for a circular-saw bench, &c., in the name of a builder, stating he was his manager on some new works, and would require a considerable amount of fresh plant. Perhaps we need hardly say that "quite by accident he had forgotten his purse," and "could we oblige him," &c., but having been done once before in a similar way we were sorry we could not oblige him. On sending the order to the firm mentioned, it was stated to be a forgery. M. POWIS BALE & CO.

The Student's Column.

TOWN DRAINAGE.

XX.—WASTE-PIPES OF HOUSE FITTINGS.

AN apparatus fixed in its place in a house and supplied with water is called a fitting: such is a wash-hand basin, a bath, or sink upon which things are washed up. This sort of sink is commonly under a water-tap, and is large and shallow; another sink is for washing vegetables, deep, and divided into two compartments, one for washing, and the other for rinsing. Another so-called sink is the basin into which the housemaid throws the chamber slops, called the slop-sink. Then there is the scullery sink and the washhouse sink, and there may be a butler's sink, these three being on either the basement or ground-floor, while the others are mostly on upper floors. The basin of a water-closet, with its pipes and appliances, is also a "fitting," and so is a urinal. Such of these fittings as are situated one above another have one vertical pipe in common, called the main waste-pipe, into which the waste water of the several fittings is conducted by branches, each of which has a trap upon it, and these several pipes and branches resemble the similar parts belonging to water-closets when situated one over another; but they differ in this respect, that the main waste-pipe of these fittings is never connected directly with the house-drain, as a soil-pipe is when it acts as the ventilating-pipe of the drain, but is always cut off from any direct communication with the drain by being made to discharge into a gully, outside the house, which has a trap between it and the drain, and is open to the atmosphere on its upper side. And not only does a vertical main waste-pipe differ from a soil-pipe which acts as the ventilating-pipe of the drain, but it differs from a soil-pipe which is not directly connected with the drain, inasmuch as this discharges into the gully under its grating, while the waste-pipe discharges over the grating, or rather into a short surface channel, which conveys the waste water into the gully, 18 in. or 2 ft. away from the wall, so that, in case of it becoming untrapped, by evaporation or otherwise, the foul air may not reach the end of the waste-pipe. The pipe by which the water is discharged from the basin or sink is called the waste-pipe, or, shortly, the waste.

When these fittings are situated one over another the main waste-pipe resembles the soil-pipe of a tier of water-closets in this, that it requires provision against siphonage of the lower traps, in the same way and for the same reason as does the soil-pipe, for the discharges into it from some of these are as great in bulk and as sudden as those from water-closet basins. A pailful of slops thrown into a housemaid's slop-sink displaces as much air in the waste-pipe as the water-flush does in a soil-pipe, and it requires replacing in the same way and for the same reason as that before described for soil-pipes, if one waste-pipe be made to serve for several floors; but a better plan is to have a waste-pipe from each floor; it needs then only to be ventilated from the crown of its trap to the outside air to ensure it against siphonage under every condition to which it is subject.

And, besides this advantage, another is that the waste-pipe need not be so large as when one alone serves for a tier of these fittings. That which is discharged adheres to some extent to the inside of a pipe, and the less the surface exposed the less offensive it will be. The quick descent of these discharges will prevent any stoppage of the pipe, however small, and if the crown of the trap of the one branch, which alone has to be dealt with in this case, be placed in close contiguity to the atmosphere by means of a short and sufficiently large pipe, the waste-pipe below the branch may be much smaller than it otherwise should be. When the waste-pipe of, say, a scullery sink, does not carry off the water fast enough it is generally not because the pipe is too small but because the water cannot enter the pipe freely through the small circular holes in a too small grating at the mouth of the pipe. All pipes of proper size to carry off what is discharged into them require a wider entrance than the size of the pipe itself, in the proportion of more than one-half its section greater, in a length equal to its diameter. Then the aggregate area of the openings in the grating should be much greater than the area of the mouth of the pipe, even when all the openings are free from dirt; but as they never are so the openings provided should be five times the area of the pipe. In that case a small waste-pipe is sufficient for all situations except that of a scullery-sink where a trap of the form of the letter S is placed upon the waste-pipe under the sink, and where much grease is discharged with the hot water. Here, if the pipe be small, grease collects at the top of the bend, at A in fig. 1. The screw cap for

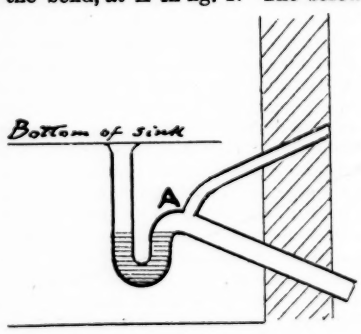


Fig. 1.

inspection placed at the bottom of the trap is of no assistance as a remedy for this stoppage by grease at the top of the bend.

As it has been found that grease does collect here, and that it interferes with the due delivery of the waste water from the sink, it has been attempted to remedy this inconvenience by putting in a large pipe. This certainly takes a longer time for the grease to accumulate to such a degree as to hinder the flow of water through the pipe, but it is no proper remedy. Then, when there results a continued bad smell from this accumulation of grease, the pipe is ventilated by a branch from the crown of the trap to the outside air, as in the figure; but the grease is left in the pipe all the same. One remedy that may be suggested is the use of a smaller pipe, the end of which dips into the water in the gulley, and which has no S pipe upon it. In any such case as this, if a pipe, 1¼ in. in diameter, be fixed from the sink to the gully without a trap, and the end of the pipe discharge under water in the gulley, and the mouth of the pipe be 2 in. diameter, and the openings in the grating amount in the aggregate to 6 square inches, as in fig. 2, none however being longer than ⅝ in., or wider than ¼ in., the waste water may be discharged from the sink in tubsful or otherwise without ruffling the temper of the most exacting kitchenmaid. At the same time it must be added that while the absence of the S trap prevents an accumulation of grease at the one point, a certain amount of it will cling in time to the sides of the vertical pipe, and will produce a smell, disagreeable though

not injurious; so that to a certain extent we are left with a choice of evils.

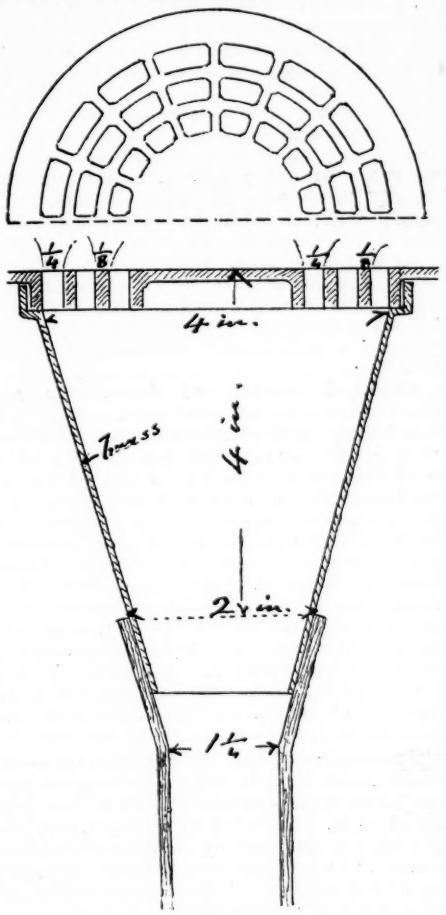


Fig. 2.

The same objection to a large waste-pipe, viz., that it exposes to the air a greater extent of foul surface, applies to urinals, but not to baths and lavatories, the waste-pipes of which may be larger and yet inoffensive. Taking the time of emptying a bath as the gauge for the size of a pipe, the emptying of sixty gallons of water in two or three minutes requires a pipe of considerable diameter, perhaps 2 in. in most situations, or 1½ in. in others; but the indirectness of the course which the water must necessarily follow in these cases, and the valves which are necessary to be placed upon the pipe, govern the speed with which a bath is emptied, more than the size of pipe, except when it is of great length.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

8,391, Flush-out Basins. J. Craig.

The fans of the basins which are the subject of this patent are arranged so as to distribute separate currents for flushing out the contents, and for cleansing the sides of the basin. A raised portion extends from the flushing-rim down to the lower edge of the fan. The portion bearing against the interior surface of the basin encloses a space which is shut off from communication with the space between the remainder of the fan and the interior surface of the basin. The water supplied through the inlet horn or branch is divided by the raised rib on the back of the fan, one part of the current being directed to the outlet at the bottom of the fan and the other to the enclosed space, from whence it is led to a series of holes made at the edges of the fan. The effect of these divided currents is to thoroughly cleanse the sides of the basin.

8,533, Sash-cord-fasteners. G. Ridley.

According to this invention, in the face of the sash-frame, as near the glass as practicable, and on the inside, is cut out a slot with a curved bottom. Sloping up the groove in this slot is fixed a roughened pawl or eccentric lever, pivoted to a bracket let into the sash. To introduce a new cord, the cord is pushed down the groove, and the end comes out at the slot. The pawl or eccentric is then turned so as to bite the cord tight, and a wedge is used so as to lock it in place. The more strain there is on the cord the tighter is the fastening.

9,163, Additions to Water-closets. T. W. Twyford.

According to this invention, a wash-chamber is provided as an additional convenience, and this is made as part of the trap and basin. It is chiefly designed for export to the East, but is also a valuable sanitary addition for use in the Western Hemisphere.

1,646, Syphon Traps. E. Smith.

About two-thirds of the lower part of the trap which is the subject of this patent is rounded so as to form a bottom, the other part being somewhat prolonged and left open. An upward projection from this rounded bottom forms a basin in the part of the trap with the bottom, and also forms in conjunction with a downward projection from the said bottom and the prolonged part of the trap the outlet or one leg of a syphon, the end of which is generally worked to a rounded form when the trap is made of soft metal. An over-lapping lip or partition is fixed with its upper part joined to the outlet side of the trap, near the top, and with its lower edge on a lower level than the top of the upward projecting partition, and at such a distance from the said upward projecting partition as to leave space sufficient for the exit of all water which enters the top of the trap, excepting what is retained by the depth of the part which forms a basin, the water thus retained forming a seal, and preventing the escape of gases from the pipe or drain to which the trap is attached.

2,857, Planes. G. W. Meister.

The plane-iron which is the subject of this patent does not pass through the stock, nor is it fastened by the usual method of wedging. The plane-iron is adjusted by two screws, and is fixed in a small hollow in the stock. A plane constructed in this way is very strong, admits of rapid and ready adjustment of the plane-iron, and the plane-iron does not work loose.

3,875, Seasoning or Preserving Wood. S. E. Haskin.

To obviate necessity for the great length of pipes required by the ordinary method of vulcanising wood, this inventor uses a vulcanising chamber which is smaller, but much more economical in practice. Heated air is introduced into this chamber under such pressure as will prevent the evaporation of the sap of the wood under treatment, more or less of the moisture of the compressed air having been precipitated before the air is discharged into the wood cylinder.

4,326, Cowl or Ventilator. J. D. Fryer.

The cowl which is the subject of this patent revolves upon ball bearings, and the shaft has openings so shaped that the wind blowing into them is diverted into upward currents. The cowl is surmounted with vanes, which are bent so as to form leaves of an archimedean screw, and thus in revolving the upward current is assisted.

NEW APPLICATIONS FOR PATENTS.

April 29.—7,075, F. Harrop and F. Chipps, Window-fastening. — 7,109, A. Rammage, Fireproof Partition for Building Construction. — 7,154, J. Thom, White Lead.

April 30.—7,156, J. Macfarlane, Yellow Pigment. —7,164, J. Kimm, Chimney Pot or Top, and fixing same.

May 1.—7,223. J. Clayton and C. Tindall, Water-closets.—7,241, J. Wilson, Walls, Buildings, &c.—7,253, W. Hilliard, Dowel or Dowel-pin.—7,263, W. Thomas, Door-stop.

May 2. — 7,306, G. Williams, Flush-bolts for Doors, &c.—7,307, G. Williams, Barrel-bolts for Doors, &c.—7,318, W. Vyse, Slow-combustion Stoves.

May 3.—7,404, J. and D. Rowell, Iron Walls and Fences. — 7,425, D. Prescott, Band-saw Mills. — 7,429, O. and J. Haer, Scaffolding for Painters, Decorators, &c.

May 4.—7,463, S. Gully, Locking Doors.—7,478, A. Tanner and A. Godart, Decorating Lead or other Fret Glazing.

PROVISIONAL SPECIFICATIONS ACCEPTED.

4,495, T. Houghton, Chimney-pot, &c.—4,797, C. Lett, Securing and Steadying Window-sashes.—5,175, T. Wintour, Ventilating Apparatus.—5,595, R. Roberts, Prevention of Down-draught in Chimney-pots.—6,018, R. Haddan, Belt or Binding for Paint-brushes, &c. — 6,152, W. Williams, Ventilator for Buildings.—6,380, E. Edwards, Roof Ventilators.—6,382, F. Bartlett, Heating and Ventilating.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

6,222, W. Pryke and W. Palmer, Eaves Gutters. — 8,338, H. Lansbury, Weather-bars for Doors and Windows.—8,831, E. Chatham, Crushing and Mixing Mortar.—9,360, J. & W. Cormack, Ventilators, &c.— 9,442, M. Lansdell, Set Squares, T Squares, &c.—12,324, A. Gibson, Feed Mechanism for Saw-mills.—16,004, P. Mugford, Securing Tiles in Firegrate Jambs.—2,706, E. Edwards, Window-sash Fasteners.—4,806, Sir E. Harland, Elastic Tiles.—5,400, W. Thomas and W. Strong, Window-fastenings.—5,490, T. Taylor, Securing Door-knobs to Spindles.

Appointment.—At a meeting held on Monday evening by the Willenhall Local Board, Mr. Robert Wolstencroft, of Birmingham, was appointed clerk of works to superintend the carrying out of their sewerage works under their engineer and surveyor.

RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

MAY 6.—By W. W. JENKINSON.

Brixton—F g r. of £20, with reversion in 80 yrs. to £140 p.a.	£515
Kingsland—15 and 16, Canterbury-rd., u.t. 62 yrs., g.r. £7. 10s., r. £67. 10s. p.a.	530
137, 139, and 141, Culford-rd., u.t. 35 yrs., g.r. £12, e.r. £130 p.a.	800
Holloway—56A, Durham-rd., u.t. 87 yrs., g.r. £8. 10s., r. £40 p.a.	390

By HARMAN BROS.

Lewisham High-road—The f. residence "Tremorvah"	1,780

By C. D. FIELD & SONS.

Clapham—55 to 63 (odd), Webb's-rd., u.t. 92 yrs., g.r. £34, e.r. £158 p.a.	1,050
West Norwood—29, Lancaster-rd., u.t. 74 yrs., g.r. £11, e.r. £65 p.a	585
Deptford—6, Arthur-ter., u.t. 56 yrs., g.r. £4, r. £30 p.a.	285
Rotherhithe—F.g.r. £40 p.a., with reversion in 96 yrs. to £208 p.a.	900

MAY 7.—By BEAL, SON, & CHARTRES.

Piccadilly, No. 199—The lease, u.t. 13½ yrs., r. £200 p.a.	1,040

By C. & F. RUTLEY.

Caterham—F. house, shop, and show-room, r. £70 p.a.	1,050

By GIDDY & TURNER.

Chertsey Station, near—"Merrylands" and 9a. 3r. 21p. f.	1,800

By E. J. GAIRDNER.

Whitechapel—F.g.r. of £2, reversion in 1½ yrs. to £21 p.a.	260
36 and 38, Underwood-st., reversion in 1½ yrs. to £74 p.a.	660
60, Underwood-st., f., r. £28. 12s. p.a.	340
62 and 64, Underwood-st., f., r. £39 p.a.	520
66, Underwood-st., reversion in 1½ yrs. to £24. 14s. p.a.	275
F.g.r. of £4, reversion in 1½ yrs. to £36. 8s. p.a.	440

By C. & H. WHITE.

Clapham—102, Fentiman-rd., f., with possession	820
100 to 108 (even), Clapham-rd., u.t. 7½ yrs., g.r. £25, r. £233 p.a.	290
Brixton—6 to 12 (even), Baker-st., u.t. 12 yrs., g.r. £8. 16s. 3d., r. £88. 8s. p.a.	290
Kennington—9, Princes-rd., u.t. on lives, g.r. £1. 10s., r. £30 p.a., and a policy for £200	190
Camberwell—2 to 12, 17, 19, 25, 27, and 29, Caspian-st., f., r. £371 p.a.	3,310
70, 80, and 82, Brisbane-st., f., r. £85. 16s. p.a.	825
249, 251, and 253, Albany-rd., f., r. £79. 6s. p.a.	685

By DEBENHAM, TEWSON, & CO.

City—3, Union-ct., f., area 830 ft.	4,120
Kensington—22 to 30 (even), Gordon-pl., u.t. 83 yrs., g.r. £75, r. £435 p.a.	4,280
32 to 38 (even), Gordon-pl., u.t. 83 yrs., g.r. £60, r. £350 p.a.	3,460
19, Ball-st., u.t. 61 yrs., g.r. £15, r. £80 p.a.	1,020
Holloway—2 to 28 (even), Langdon-rd., f., r. £440 p.a.	5,685
Freehold modern stabling and yard, r. £100 p.a.	1,680
40, Junction-rd., f., r. £40 p.a.	700
Camden-rd.—16, Parkhurst-rd., u.t. 65 yrs., g.r. £6. 6s., r. £90 p.a.	900
16, 20, and 36, Hillmarten-rd., u.t. 67 yrs., g.r. £27. 10s., e.r. £195 p.a.	1,605
38, Hillmarten-rd., u.t. 67 yrs., g.r. £10. 10s., r. £65 p.a.	350
98, 100, and 125, Hungerford-rd., u.t. 73 yrs., g.r. £17. 17s., r. £108 p.a.	970
43, Camden-park-rd., u.t. 74 yrs., g r. £8, r. £38 p.a.	320
Kentish-town—76, Gaisford-st., u.t. 60 yrs., g.r. £8. 8s., r. £45 p.a.	455
Haverstock-hill—109, Queen's-cres., u.t. £62 yrs., g.r. £7, r. £40 p.a.	365

MAY 8.—By BAXTER, PAYNE, & LEPPER.

Shortlands, Kent—"The Vale," f., r. £70 p.a.	1,000

By JOHN BOTT.

Nunhead—3, Nunhead gr., u.t. 80 yrs., g.r. £8, r. £35 p.a.	250
Herne-hill—16, Gubyon-avenue, 89 yrs., g.r. £8. 10s., r. £40 p.a.	410

By INMAN, SHARP, HARRINGTON, & ROBERTS.

Cavendish-sq.—72, Margaret-st., u.t. 25 yrs., g.r. £20, r. £130 p.a.	1,330
73, Margaret-st., u.t. 25 yrs., g.r. £20, r. £130 p.a.	1,400
Lambeth—L.g.r. of £626. 4s. 3d., u.t. 19 yrs., rent value £3,000 p.a.	4,200

MAY 9.—By WEATHERALL & GREEN.

Maida Vale—16, Randolph-cr., u.t. 78 yrs., g.r. £24, r. £160 p.a.	1,660
8, Randolph-cr., u.t. 78 yrs., g.r. £18, e.r. £120 p.a.	1,000

By JENKINS, SONS, & ELLIS.

Brockley-rd.—Nos. 208 and 210, u.t. 83 yrs., g.r. £8. 14s., e.r. £68 p.a.	600
New Cross—76 and 78, Shardeloes-rd., u.t. 75 yrs., g.r. £8, r. £56 p.a.	495
80 and 82, Shardeloes-rd., u.t. 75 yrs., g.r. £8. 10s., r. £61 p.a.	500

By GLASIER & SONS.

Barnes, High-st.—F. r., £70 p.a.	1,750
Regent-st.—No. 198, u.t. 30 yrs., g.r. £67, r. £400 p.a.	6,175
Lisson-grove—L.g.r. of £100, term 33 yrs.	1,520
Regent's Park—L.g.r. of £114. 12s. 9d., u.t. 33 yrs., at £60 p.a.	650

By RUSHWORTH & STEVENS.

Halliford Green—"Battlecrease Hall," f., with possession	830
"The Three Horse Shoes" beerhouse, f., r. £35 p.a.	950
Brasted Chart, Kent—Two plots of f. land, 1a. 0r. 35p.	200
Sunbury—"Holly Cottage," c., r. £30 p.a.	540

By J. MCLACHLAN & SONS.

Streatham—1 and 2, Glenburnie-rd., u.t. 99 yrs., g.r. £12, r. £60 p.a.	350

By NEWBON & HARDING.

Balls Pond—1, Mildmay-park, f., r. £70 p.a.	1,555

City-road—No. 302, u.t. 53 yrs., g.r. £8, r. £80 p.a. ... 650
Hornsey-lane—The f. residence, "Tudor Lodge," with possession 2,500
Holloway — 27, Carleton-rd., u.t. 85 yrs., g.r. £20. 6s., r. £100 p.a. 1,305

By C. C. & T. MOORE.

Victoria Park-rd.—No. 131, u.t. 54 yrs., g.r. £3. 10s., e.r. £45 p.a. 350
Mile End—85, 87, and 89, Devonshire-st., u.t. 26 yrs., g.r. £29. 5s., r. £73. 1s. 480

By E. STIMSON.

Westminster Bridge-rd.—2 to 5, Duke-st., u.t. 30 yrs., g.r. 1s., r. £133. 19s. 255
Battersea—46, Sterndale-rd., f., e.r. £40 p.a. 390
Brixton—108 and 110, Holland-rd., u.t. 34 yrs., g.r. £10. 10s., r. £67 p.a. 485
Old Kent-rd.—28 and 30, Mawbey-rd., u.t. 29 yrs., g.r. £6. 12s., r. £65 p.a. 230
Peckham—42, 44, and 46, Camden-gr. North, u.t. 72 yrs., g.r. £7. 4s., r. £81. 18s. 450
Lambeth—5, Eaton-st., u.t. 17 yrs., g.r. £4. 10s., r. £26 p.a. 50
Islington—176, Liverpool-rd., u.t. 63 yrs., g.r. £20, r. £39 p.a. 22
Wandsworth-rd.—No 398, u.t. 37 yrs., g.r. £8. 10s., r. £50 p.a. 380
Battersea—9 and 11, Octavia-st., u.t. 88 yrs., g.r. £12, r. £56 p.a. 535
West Ham—F.g.r. of £18. 10s., with reversion in 98 yrs. to e.r. of £100 p.a. 400

MAY 16.—By R. REID.

Hyde-pk.—36, Ennismore-gdns., u.t. 26½ yrs., g.r. £20, r. £160 p.a. 1,700

By ELLIS & SON.

Walworth-rd.—24 to 38 (even), f., area 5,100 ft. ... 4,300
St. George's-in-East—F.g.r. of £20, with reversion in 11 yrs. to e.r. of £145 p.a. 1,530
F.g.r. of £5, with reversion in 11 yrs. to e.r. of £35 p.a. 330
F.g.r. of £16. 10s., with reversion in 13 yrs. to e.r. of £135 p.a. 990
F.g.r. of £69. 6s., with reversion in 30 yrs. to e.r. of £250 p.a. 1,700

By NEWBON & HARDING.

Homerton—150, High-st., f., r. £32. 10s. p.a. ... 295
Kingsland—36 to 44 (even), Bentley-rd., u.t. 31 yrs., g.r. £14, r. £136. 10s. p.a. 880
Old Ford-road—Nos. 418, 420, and 422, f., r. £79 p.a. 980
91 to 99 (odd), Ford-rd., f., r. £75. 8s. p.a. 1,040
5 to 15 (odd), Wright's-rd., f., r. £139 p.a. 1,820
3 and 5, Beale-rd., f., r. £50. 14s. p.a. 650
A plot of f. land in Beale-rd. 105
Walthamstow—A plot of f. land in Byron-rd 220
A plot of f. land in Milton-rd. 8
A plot of f. land in Beulah-rd. 60

[*Contractions used in this list.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; yd. for yard, &c.]

MEETINGS.

SATURDAY, MAY 18.

Edinburgh Architectural Association.—Visit to Arniston House and Temple Church.

MONDAY, MAY 20.

Royal Institute of British Architects. — Professor Aitchison, A.R.A., on "The Roman *Thermæ*." 8 p.m.

Society of Arts (*Cantor Lectures*).—Mr. H. Graham Harris on "Heat Engines other than Steam." III. 8 p.m.

TUESDAY, MAY 21.

Institution of Civil Engineers.—(1) Further discussion on Mr. W. H. Greenwood's paper on "The Treatment of Steel by Hydraulic Pressure, and the Plant employed for the purpose." (2) Mr. E. E. Sawyer, M.A., on "West of India Portuguese Railway and Harbour Works." 8 p.m.

Royal Statistical Society.—Mr. S. Bourne on "Variations in the Volume and Value of the Exports and Imports of the United Kingdom in Recent Years." 7.45 p.m.

Birmingham Architectural Association.—Paper by Mr. W. H. Bidlake, M.A.

WEDNESDAY, MAY 22.

Society of Arts.—Mr. A. F. Yarrow on "The Use of Spirit as an Agent in Prime Movers." 8 p.m.

Inventors' Institute.—8 p.m.

THURSDAY, MAY 23.

Society of Antiquaries.—8.30 p.m.

Institution of Electrical Engineers.—Mr. W. M. Mordey, on "Alternate Current Working." 8 p.m.

SATURDAY, MAY 25.

Architectural Association.—Visit to House in Kensington-court. 3 p.m.

Miscellanea.

Artists' General Benevolent Institution.—The Lord Chancellor took the chair at the seventy-fourth anniversary dinner of this Institution on Saturday last, at the Whitehall Rooms of the Hôtel Métropole. Among the company present, numbering upwards of 250, were Lord Crewe, Sir F. Leighton, P.R.A., Sir J. Millais, R.A., Sir J. D. Linton, P.R.I., Mr. Val Prinsep, A.R.A., Mr. Alfred Hunt, R.W.S., and Sir J. C. Robinson. In proposing the toast of the evening, "Prosperity to the Artists' General Benevolent Institution," the Chairman said that the toast and the cause it indicated required no advocacy from any one. Other speeches followed, and subscriptions to the amount of 3,069*l.* were announced by the treasurer (Mr. P. C. Hardwick).

Royal Meteorological Society. — The usual monthly meeting of this Society was held on Wednesday evening, the 15th inst., at the Institution of Civil Engineers, 25, Great George-street, Westminster, Dr. W. Marcet, F.R.S., President, in the chair. Mr. T. H. Hall was elected a Fellow of the Society. The first paper read was an "Account of some experiments made to investigate the connexion between the Pressure and Velocity of the Wind," by Mr. W. H. Dines, B.A., F.R. Met. Soc. These experiments were made for the purpose of determining the relation between the velocity of the wind and the pressure it exerts upon obstacles of various kinds exposed to it. The pressure-plates were placed at the end of the long arm of a whirling machine, which was rotated by steam power. The author gives the results of experiments with about twenty-five different kinds of pressure-plates. The pressure upon a plane area of fairly compact form is about 1½ lb. per square foot at a velocity of twenty-one miles per hour, or, in other words, a pressure of 1 lb. per square foot is caused by a wind of a little more than seventeen miles per hour. The pressure upon the same area is increased by increasing the perimeter. The pressure upon a ¼ ft. plate is proportionally less than that upon a plate either half or double its size.* The pressure upon any surface is but slightly altered by a cone or rim projecting at the back,—a cone seeming to cause a slight increase, but a rim having apparently no effect.

The Great Plague of London.—At a meeting of the Association of Public Sanitary Inspectors of Great Britain, held on Saturday evening, at the Westminster Town Hall, an address was given by Major Greenwood, on "The Great Plague of London," with special reference to the sanitary state of the city in 1665 and in 1889. Mr. H. Alexander presided. Major Greenwood, after giving a history of the plague, concluded by comparing the London of 1665 with the London of 1889, and said that while it must be confessed that London of the present was incomparably better, from a sanitary point of view, it was in some points more to blame. If the importance of sanitary reforms were better understood and more considered by the people, he contended that in a few years London might boast of a sanitary excellence far higher than its present one, compared with which its improvement since 1665 would be comparatively insignificant. He declared that the present water-supply was insufficient. After drawing attention to the sewerage and drainage, he pointed out the evils of the present overcrowding, and held that some effort must be made to improve the housing of the working classes. A discussion followed, in the course of which it was urged that the present sanitary conditions were insufficient for the requirements of the ever-growing population, and several of the speakers advocated an alteration to the existing burial laws, and held that the disposal of the dead would be best effected by cremation.

The English Iron Trade.—The English iron market has been almost unchanged during the past three weeks. Although trade has been somewhat quieter, quotations have been fairly well maintained, the firm tone being due to the knowledge that, with the rising tendency of raw materials and wages, it is impossible for manufacturers to submit to reductions. During the past week pig-iron has been steady at old prices; makers in Cleveland adhering to their quotation of 40s. for prompt iron, while merchants are only slightly below it. In the other districts where pig-iron is made, a steady tone has prevailed, while Bessemer pig shows an improvement in tone. In the Glasgow warrant market there have not been very great fluctuations, and prices are about the same as those ruling a week ago. Manufactured iron is in slower inquiry, and prices are slightly easier. Steel continues in strong demand, and steel rails have recovered the drop of 2s. 6d. a ton which they experienced a week ago in the north-west. The inquiry for new ships is less active than it was a short time back, but the trade is pretty free from trade disputes, the men working steadily. Engineers are still briskly employed.—*Iron.*

A Scandinavian Industrial Exhibition. A Scandinavian Industrial Exhibition is to be held in Stockholm during the summer of 1892 the project being supported by leading Scandinavian manufacturers.

* We give this as communicated to us by the Secretary of the Society. The statement seems only partially reconcilable with that of the preceding sentence.—ED.

The Parkes Museum.—A general meeting of this Society was held on the 10th inst., Dr. G. V. Poore in the chair, for the purpose of completing the arrangements necessary for carrying out the amalgamation of the Parkes Museum with the Sanitary Institute. We are officially informed that "although the Parkes Museum will cease to exist as a separate body, it will still be carried on in the same premises as part of the Sanitary Institute or combined society, and its scope will be enlarged, and its usefulness greatly increased. In order to conform to legal technicalities it was necessary that it should be wound up, but it is satisfactory to note that the Parkes Museum in closing its works was able to transfer to the new Institute its museum and library, which has been a collection of many years, the lease of the premises, and also a cash balance amounting to nearly 900*l.*"

Sheffield Society of Architects and Surveyors.—At a special general meeting of this Society on May 7, the following resolutions were passed:—"(1) That this Society, whilst reiterating its opinion that a Bill to promote the registration of architects and surveyors is desirable, cannot approve of the Bill now being promoted by the Architects' and Engineers' Registration Committee. (2) That this Society earnestly hopes that the Royal Institute of British Architects and the Surveyors' Institution will endeavour to promote, at an early date, an efficient Bill for the registration of architects and surveyors. (3) That copies o the foregoing resolutions be sent the Royaf Institute of British Architects, the Surveyorsl Institution, and the promoters of the Bill."

Boscombe Chine, Bournemouth.—The Chine Hotel of this favourite watering-place has lately been overhauled, and a new wing added to it. The sanitary arrangements have all been reconstructed by Mr. John Smeaton, of London, to whom also was entrusted the heating of the building. This has been carried out upon what is known as the "low-pressure" system, the boiler being of the "Trentham" Cornish type, situated in a vault outside the main building. The domestic supply is on the "Cylinder" system, and the whole work has been carried out under the superintendence of the architect, Mr. W. H. Fletcher, of London.

The Peterborough Brick Trade.—We hear that this trade keeps exceedingly busy, and that the makers have orders for some time ahead. The London and North-Western Railway Co. have sent one of their officials from Euston to Woodstone and Fletton to report as to connecting their system to the various yards, by means of siding accommodation similar to that already provided by the Great Northern Railway.

Grundy's Heating Apparatus Works.—Plans for the extension of the well-known Heating Apparatus Works, at Tyldesley, near Manchester, owned by Mr. John Grundy, of Duncan-terrace, City-road, London, have just been approved by the Building Committee of the Local Board.

Health of Ealing.—The Medical Officer of Health for the District of Ealing, in his annual report for 1888, just published, gives the death-rate at the low figure of 10·9 per thousand, and the average for three years at only 11·5 per thousand.

PRICES CURRENT OF MATERIALS.

TIMBER.	£.	s.	d.	£.	s.	d.
Greenheart, B.G. ....ton	6	10	0	7	10	0
Teak, E.I.....load	11	0	0	15	0	0
Sequois, U.S.....foot cube	0	2	3	0	3	0
Ash, Canada.....load	3	10	0	5	0	0
Birch ,, ...	3	10	0	6	0	0
Elm ,, ...	4	0	0	5	0	0
Fir, Dantsic, &c.	2	0	0	3	10	0
Oak ,, ...	2	10	0	4	10	0
Canada	5	10	0	7	10	0
Pine, Canada red	3	5	0	4	0	0
,, yellow	3	10	0	5	10	0
Lath, Dantsic.....fathom	4	10	0	5	10	0
St. Petersburg.....	5	0	0	6	10	0
Wainscot, Riga, &c.....log	2	15	0	4	5	0
,, Odessa, crown.....	0	0	0	0	0	0
Deals, Finland, 2nd and 1st...std.100	9	10	0	11	0	0
,, ,, 4th and 3rd.....	8	0	0	9	0	0
Riga	7	10	0	9	0	0
St. Petersburg, 1st yellow	11	0	0	15	0	0
,, 2nd ,, ...	10	0	0	11	0	0
,, white	7	10	0	10	10	0
Swedish	9	0	0	16	0	0
White Sea	9	10	0	17	0	0
Deals—Canada, Pine, 1st	16	0	0	26	10	0
,, ,, 2nd	11	0	0	17	10	0
,, ,, 3rd, &c.	8	0	0	10	10	0
,, Spruce, 1st	9	10	0	11	0	0
,, ,, 3rd and 2nd	7	10	0	9	0	0
New Brunswick, &c.	6	15	0	8	15	0

TIMBER (*continued*).	£.	s.	d.	£.	s.	d.
Battens, all kinds	6	10	0	20	0	0
Flooring Boards, sq., 1 in., prepared, First	0	11	0	0	14	6
Second	0	8	0	0	10	9
Other qualities	0	5	6	0	7	9
Cedar, Cuba ..... foot	0	0	4½	0	0	4½
Honduras, &c.	0	0	4	0	0	4½
Mahogany, Cuba	0	0	4½	0	0	6½
St. Domingo, cargo average	0	0	4½	0	0	6½
Mexican ,,	0	0	4½	0	0	5½
Tobasco ,,	0	0	5½	0	0	6½
Honduras ,,	0	0	5½	0	0	6½
Box, Turkey ..... ton	4	0	0	12	0	0
Rose, Rio	15	0	0	20	0	0
Bahia	14	0	0	18	0	0
Satin, St. Domingo ..... foot	0	0	6	0	1	0
Porto Rico	0	0	9	0	1	3
Walnut, Italian	0	0	4½	0	0	6½
METALS.						
IRON—Bar, Welsh, in London ... ton	5	5	0	5	10	0
,, ,, at works in Wales ...	4	15	0	5	0	0
,, ,, Staffordshire, in London ...	5	10	0	6	10	0
COPPER—						
British, cake and ingot ..... ton	43	0	0	44	0	0
Best selected	44	0	0	45	0	0
Sheets, strong	50	0	0	0	0	0

METALS (*continued*).	£.	s.	d.	£.	s.	d.
COPPER (*cont.*)—						
Australian	0	0	0	0	0	0
Chili, bars	39	10	0	0	0	0
YELLOW METAL ..... lb.	0	0	5	0	0	5½
LEAD—Sheet, English ..... ton	13	10	0	14	0	0
SPELTER—						
Silesian, special ..... ton	17	7	6	17	10	0
Ordinary brands	17	5	0	17	7	6
TIN—						
Straits ..... ton	91	10	0	0	0	0
Australian	91	10	0	0	0	0
English Ingots	94	0	0	0	0	0
ZINC—English sheet ..... ton	21	0	0	22	0	0
OILS.						
Linseed ..... ton	19	5	0	19	12	6
Cocoanut, Cochin	27	0	0	28	0	0
Ceylon	25	0	0	0	0	0
Palm, Lagos	23	10	0	0	0	0
Rapeseed, English pale	26	5	0	0	0	0
,, brown	24	15	0	0	0	0
Cottonseed, refined	24	10	0	25	10	0
Tallow and Oleine	19	0	0	45	0	0
Lubricating, U.S.	5	0	0	6	0	0
,, refined	7	0	0	12	0	0
TAR—Stockholm ..... barrel	1	2	9	1	3	0
Archangel	0	15	6	0	0	0

CONTRACTS AND PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

CONTRACTS.

Nature of Work, or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Extension of Sewer Outfall	Eastbourne Town Coun.	C. Tomes	May 21st	xii.
Rolled Girders and Cast and Wrt. Ironwork	Manchester Corporation	G. H. Hill	do.	ii.
Broken Granite	Chelmsford Town Coun.	*Official*	do.	ii.
Works of Drainage	Twickenham Loc. Board	H. M. Ramsay	May 23rd	xii.
Repairs at King's Cross Hotel	G. N. Ry. Co.	R. Johnson	do.	ii.
New Offices, Birmingham	Prudential Assur. Co.	A. Waterhouse	do.	xii.
Making-up Road	Wood Green Loc. Bd.	— Walker	May 24th	ii.
Waterworks	Faringdon Union R.S.A.	F. H. Barfield	do.	xii.
School for 600 Children	Little Ilford Sch. Bd.	R. L. Curtis & Son	May 26th	xii.
Portland Cement, Macadam, and Chippings	Toxteth Park Local Bd.	J. Price	May 27th	ii.
Cast-iron Lamp Posts and Cradles, &c.	Bournemouth Commrs.	F. W. Lacey	do.	xii.
Making-up Roads	Southgate Local Board	C. G. Lawson	May 28th	xii.
Kerbing, Tarpaving, &c.	Lewisham Bd. of Works	*Official*	do.	xii.
Yarmouth Shingle Concrete Paving	Hanwell Local Board	R. J. W. Herbert	May 29th	xii.
Brick Sewers	Paddington Vestry	*Official*	June 3rd	ii.
Wood Paving Blocks	St. Marylebone Vestry	do.	do.	xii.
Sewage Filters	Tottenham Local Board	J. E. Worth	June 4th	ii.
Pipe Sewers, &c.	Hastings R.S.A.	Jeffery & Skiller	June 5th	xii.
Works of Water Supply	Pontefract Corporation	G. Hodson	June 6th	xii.
School Buildings	Luton School Board	J. R. Brown & Son	June 10th	xii.
Roads and Sewers, Edmonton	Messrs. Croucher & Co.	.....	Not stated.	xii.
Cleaning and Painting Schools	School Brd. for London	*Official*	do.	xii.
Annual Repairs to Buildings and Furniture	do.	do.	do.	xii.
Sweeping Chimneys, Window Cleaning, &c.	do.	do.	do.	xii.
Works to School-Keeper's House, &c.	do.	do.	do.	xii.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page.
Temporary Assistant	Friern Barnet Loc. Bd.	Not stated	May 20th	xvi.
County Surveyor	Salop County Council	450*l.*	June 1st	xvi.
Surveyor	Horwich Local Board	175*l.*	June 3rd	xvi.
Chief Engineer	London County Council	1,500*l.*	do.	xvi.
Mechanical Engineer	do.	500*l.*	do.	xvi.
Draughtsman in Patent Office	Civil Service Com.	Not stated	June 5th	xvi.
Surveying Clerk	St. Bartholomew's Hosp	do.	Not stated	xvi.
C. E. Draughtsman	Portsmouth Dockyard	8s. per day	do.	xvi.

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *Noon on Thursdays.*]

ALDERSHOT (North Camp).—For house and shop, Lynchford-road, for Mr. George Trimmer. Mr. Sidney Stapley, architect, Farnham:—

Wm. Hughes, Farnboro'	£1,246 10 0
Garland, Aldershot	1,190 0 0
Kemp, Aldershot	1,136 0 0
John Hughes, Aldershot	1,120 0 0
Diamond & Sons, Farnham	1,100 0 0
Parratt, Farnham	1,090 0 0

AMERSHAM (Bucks).—For erecting a detached villa residence for Mr. J. Esendier. Mr. T. F. Shaw, architect, Harlesden, N.W.:—

Darlington, Amersham (accepted)	£850 0 0

BINFIELD (Berks).—For erecting a detached villa residence for Miss Chapman. Mr. T. F. Shaw, architect.

G. East, Binfield	£1,020 0 0
G. Brown, Bracknell	921 0 0
A. Binnie, Wokingham	836 0 0
J. Seward, Wokingham	775 0 0
W. T. Quick, London	670 0 0
B. Green, Binfield (accepted)	604 15 0

DEPTFORD.—For the erection of Wesleyan Chapel, Deptford. Mr. Chas. Bell, architect, 3, Salters' Hall-court, E.C. Quantities by Mr. H. Lovegrove, 26, Budge-row, E.C.:—

Goad	£3,423 0 0
Hooper	3,358 0 0
Holliday & Greenwood	3,295 0 0
Eldridge	3,273 0 0
Smith & Sons	3,243 0 0
Lang	3,230 0 0
Anley	3,140 0 0
Green & Lee	3,038 0 0
Allen & Sons	2,985 0 0
Downs	2,943 0 0
Richardson	2,941 0 0
Holloway	2,920 0 0
Jerrard	2,909 0 0
Soper, 46, Ravensbourne-street, Lewisham (accepted)	2,875 0 0
Castle	2,874 0 0

DEPTFORD.—For the erection of Wesleyan Schools, Deptford. Mr. Charles Bell, architect, 3, Salters' Hall-court, E.C. Quantities by Mr. H. Lovegrove, 26, Budge-row, E.C.:—

Anley	£2,239 0 0
Goad	2,236 0 0
Hooper	2,173 0 0
Eldridge	2,159 0 0
Holliday & Greenwood	2,133 0 0
Jerrard	2,048 0 0
Smith & Sons	2,030 0 0
Lang	2,010 0 0
Castle	1,993 0 0
Green & Lee	1,978 0 0
Richardson	1,963 0 0
Downs	1,959 0 0
Allen & Sons	1,955 0 0
Holloway	1,943 0 0
Soper, 46, Ravensbourne-street, Lewisham (accepted)	1,550 0 0

BROMLEY-BY-BOW. — For internal distempering, lime-whiting, altering sashes, and other works, at the Poplar and Stepney Sick Asylum. Messrs. A. & C. Harston, architects, 15, Leadenhall-street, E.C.:—

Derby	£649 0 0
Haynes	645 0 0
Wynan	498 0 0
W. G. Lilly, 5, Whitcomb-street, Pall Mall, S.W. (accepted)	409 0 0

[Architects' estimate, 400*l.*]

FARNHAM (Surrey).—For house in West-street, for Mr. Jno. Allden. Mr. Sidney Stapley, architect, Farnham:—

Kemp, Aldershot	£598 0 0
Parratt, Farnham	570 0 0
Garland, Aldershot	565 0 0
Kimber, Farnham	550 0 0
Diamond & Sons, Farnham (accepted)	535 0 0

LITTLE TESTWOOD (Hants).—For the erection of a cottage residence, for Mr. W. R. Crofton. Mr. S. K. Pope, architect, 27, Portland-street, Southampton:—

C. Barter, Shirley (accepted)	£851 4 8

LONDON.—For heating by warm air the new Church of St. Thomas, St. Thomas's-road, Finsbury Park, London. Mr. Ewan Christian, architect:—

John Grundy (accepted)	£157 0 0

LONDON.—For additions and alterations to the Poplar Union Workhouse, High-street, Poplar, E., for the Guardians of the Poplar Union. Messrs. Walter A. Hills & Son, architects, 149, Bow-road, E. Quantities by Mr. Henry Poston, 39, Lombard-street, E.C.:—

Longley	£26,916 0 0
Brass & Son	24,773 0 0
Chappell	25,866 0 0
Allen & Son	25,580 0 0
Kirk & Randall	24,420 0 0
Gentry	24,250 0 0
Perry & Co.	24,175 0 0
Shurmur	23,940 0 0
Atherton & Latta (accepted)	21,980 0 0

LONDON.—For the formation of a wood-paved carriageway and York-stone footways, the alterations of roads and tramway, and other works, in connexion with the widening of Coldharbour-lane, Camberwell, for the London County Council:—

Jacob Base	£4,314 0 0
William Griffiths	4,060 0 0
Nowell & Robson	3,948 0 0
John Mowlem & Co.	3,819 0 0
William Stubbs	3,750 0 0
Turner & Sons	3,500 0 0

LONDON.—For taking down and rebuilding at 29, Maddox-street, W., as house and studio for Mr. George Alfred Rogers. Mr. G. William Bartleet, architect:—

Colls & Sons	£3,088 0 0
Ashley Bros.	2,975 0 0
Smith & Co.	2,972 0 0
Bywaters	2,859 0 0
Simpson & Son	2,777 0 0
Patman & Fotheringham	2,753 0 0
Wood, Cleveland-street, E.*	2,683 0 0

* Accepted.

PLUMPTON.—For erecting bungalow, Plumpton, for Mr. R. J. Pope. Quantities by Mr. Alfred Carden:—

Botting	£1,199 0 0
Lockyer	1,092 0 0
Pledge	937 0 0
Deacon & Co.	899 0 0
Wells	851 0 0
Jarrett	843 0 0
Hall & Co.	746 0 0
Charlwood	684 0 0

LONDON.—For rebuilding No. 57, Albert Embankment, S.E., for Mrs. Weller Poley. Mr. John A. J. Woodward, architect and surveyor, 10, Crown-villas, Kennington Oval:—

Colls	£1,457 0 0
Greenwood	1,420 0 0
Marsland	1,390 0 0
Hooper	1,386 0 0
Beal	1,311 0 0
Ford & Sons (accepted)	1,241 0 0

LONDON.—For additions and alterations to manufactory, Vauxhall-walk, for Messrs. H. Myer & Co. Mr. John A. J. Woodward, architect and surveyor, 10, Crown-villas, Kennington Oval:—

Ansell	£614 0 0
Nightingale	565 0 0
Marsland	525 0 0
Greenwood	527 0 0
Beale	502 0 0
W. Smith	495 0 0
Ford & Sons (accepted)	469 0 0

LONDON.—For painting, &c., at "The Pheasant," Vauxhall-walk. Mr. H. W. Budd, architect, 76, Vincent-square:—

Prestige & Co.	£120 0 0
Bull	89 0 0
Lamble	85 10 0
Ford & Sons (accepted)	79 0 0

LONDON.—For alterations and additions to No. 255, Upper-street, Islington, N., for Mr. Alfred Pitt. Mr. Edmund J. Harrison, architect, 72, Chancery-lane, W.C.:—

Parker	£405 0 0
Burman	300 0 0
Coombes	293 0 0
Drew & Cadman	293 0 0
Ward & Lamble, Holloway (accepted)	249 0 0

LONDON.—For rebuilding No. 25, Wormwood-street, Bishopsgate. Messrs. N. S. Joseph & Smithem, architects, 45, Finsbury-pavement:—

Ashby Bros.	£1,687 0 0
Patrick & Son	1,524 0 0
Wm. Shepherd	1,429 0 0

LONDON.—For the erection of a mausoleum in Kensal Green Cemetery, for the Executors of the late Mr. W. J. Bush, C.C. Messrs. Hammack & Lambert, architects, No. 59, Bishopsgate-street, E.C.:—

Jabez Druitt, Mile End	£930 0 0
E. M. Lander, Kensal Green	700 0 0

LONDON.—For alterations to Cale-street Post-office, Chelsea. Mr. R. H. Boyce, architect:—

J. O. Richardson (accepted)	£489 0 0

ST. LEONARD'S-ON-SEA.—For erecting large house and stables in Branksome-road. Messrs. Elworthy & Son, architects. Quantities supplied:—

Taylor Bros., Hastings	£3,495 0 0
P. Jenkins, St. Leonard's	3,295 0 0
Eldridge & Cruttenden, St. Leonard's	3,291 0 0
T. Salter, St. Leonard's	3,242 0 0
A. H. White, St. Leonard's	3,210 0 0
H. Cruttenden, St. Leonard's	3,090 0 0
C. & E. Harman, Hastings*	2,993 0 0

*Accepted.

ST. LEONARD'S-ON-SEA.—For residence in the Filsham-road. Messrs. Elworthy & Son, architects. Quantities supplied:—

Eldridge & Cruttenden	£2,148 0 0
T. Salter	1,968 0 0
P. Jenkins	1,923 0 0
H. Cruttenden	1,928 0 0
C. & E. Harman	1,900 0 0
Taylor Bros.	1,889 0 0
A. H. White (accepted)	1,870 0 0

SOUTHAMPTON.—For the erection of a Memorial Clock Tower and Drinking Fountain, for the executors of the late Mrs. Harriett Bellenden Sayers. Mr. S. K. Pope, architect, 27, Portland-street, Southampton. Quantities by Mr. F. Thomson, 5, Great James-street, Bedford-row, W.C.:—

	A.	B.
Brinton & Bone	£670 6 0	£750 0 0
W. Franklin	640 6 0	715 10 0
J. Nichols	633 6 0	712 10 0
Garret & Haysom*	665 6 0	603 10 0

*Accepted.

A.—Estimate based on Competition Report, not including Surveyor's fee.

B.—Estimate with extras on Whitbed stone, polished red Aberdeen granite columns, &c., including Surveyor's fee.

STOKE-UPON-TRENT.—For alterations to the Wheatsheaf Hotel, Stoke-upon-Trent, contract No. 2. Mr. Edwin Penn, architect, Stoke-upon-Trent:—
J. Breeze, of Stoke ..... (accepted)..... £460

STROUD (Gloucestershire).—For drainage at Union Workhouse, for the Board of Guardians. Mr. W. H. C. Fisher, Stroud, architect:—
Gardner & Son (accepted)..... £199 11 0

SUTTON (Surrey).—For erecting cemetery chapel, lodge, mortuary, boundary walls, &c., for the Sutton Local Board. Mr. E. W. Crickmay, architect. Quantities by Mr. W. E. Stoner:—

	Chapel. £	Lodge. £	Mort'y. £	Walls. £	Total. £
Lobb & Oliver	2,179	1,100	450	1,350	5,079
F. Wyatt	1,885	1,001	419	1,456	4,763
E. J. Burnand	1,951	978	390	1,320	4,640
Martin Taylor, Croydon	1,976	948	397	1,239	4,561
S. Page, Croydon	2,027	963	370	1,073	4,433
A. H. Harris	1,812	817	350	1,392	4,371
Kirk Bros.	1,800	950	370	1,250	4,370
Dickson & Wallis	1,795	940	385	1,230	4,350
Smith & Bulled, Croydon	1,810	950	369	1,159	4,290
W. Holt, Croydon	1,805	900	350	1,112	4,169
W. Gibson, Exeter	1,845	852	343	1,110	4,150
Russell & Ball, Sutton	1,650	815	380	1,203	4,048
J. Hale, Sutton	1,758	840	344	1,095	4,037
Lye, Sutton	1,879	845	297	947	3,959
Nightinghall	1,653	841	346	1,084	3,924
R. J. Humphris, Sutton	1,645	842	344	1,067	3,900
J. B. Potter, Sutton	1,631	803	331	1,132	3,878
Longley & Co.	1,695	795	338	1,050	3,871
J. Pillar	1,680	842	326	949	3,797
Yeatman, Peckham Rye	1,641	821	324	1,001	3,787
J. Holloway	1,650	599	320	1,029	3,598
H. Adams, Sutton	1,490	745	280	879	3,394
Hugh Knight*	1,496	725	296	856	3,373

* Accepted.

For the Drainage of the New Cemetery.

H. Adams	£1,369 0 0
J. Pillar	1,346 0 0
Messrs. Longley & Co.	995 0 0
H. Knight	890 0 0
J. B. Potter	800 0 0
W. Cunliffe	727 0 0
A. W. Deacon (accepted)	658 0 0

TUNBRIDGE WELLS.—For detached private residence on the Belvedere Park estate, for Mr. A. D. Thomson. Mr. Alfred Bowyer, architect, Enfield:—
C. M. Strange (accepted) £2,113 0 0
[No competition.]

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Deal Dadoes, from 1s. 2d. per ft. super.
Oak Dadoes ,, 1s. 8d. ,,
Walnut Dadoes ,, 1s. 11d. ,,
Oak, 1 inch Parquet Floors, laid and polished, from £7. 10s. a square.
Solid 1-inch Oak, straight boards, laid and polished, at £6. 18s. a square.
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Walnut or Mahogany, from 1s. 3d. per foot. super.
Ditto with Heavy Mouldings, 4d. ft. extra.
Ditto, ditto, with Carved or Painted Panels, prices according to sketches.

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WESTWOOD GROUND. | STOKE GROUND.
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Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds, and milk-rooms, graneries, tun-rooms, and terraces. [ADVT.

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22, Martin's-lane, Cannon-street, E.C. [ADVT.

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WAINSCOT, WALNUT, TEAK
&c.
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As approved by the Metropolitan Board of Works (used in large numbers at Covent Garden Theatre).

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